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Personal and Organizational Structure Correlates of Receptivity and Resistance to Change and Effectiveness in Institutions of Higher Education.

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PERSONAL AND ORGANIZATIONAL STRUCTURE CORRELATES OF RECEPTIVITY AND RESISTANCE TO CHANGE AND EFFECTIVENESS IN INSTITUTIONS OF HIGHER EDUCATION

A Dissertation

Submitted to the Graduate Faculty of the
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by
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ABSTRACT

The purpose of this exploratory study was three-fold. First, a conceptual framework was developed to link innovation and organizational effectiveness in higher education settings through the mediating variables of faculty decision-making deprivation, self-efficacy, organizational efficacy, receptivity to change and resistance to change. Second, original instrumentation was developed to measure faculty receptivity and resistance to change and academic unit head perspectives of their unit's effectiveness. Third, linkages between the variables were examined through the collection and analysis of data using structure equation modeling and appropriate variable comparisons.

The sample consisted of all faculty from five traditional academic units at all 59 Carnegie Public Research Universities I in the United States. Psychology, Sociology, Political Science and two academic units within each College of Education were selected for inclusion in the study. Useable data were received from 799 faculty and 79 academic unit heads representing 103 academic units in 53 universities. Six measures were used: the Inventory of Receptivity to Change in Higher Education (Clarke, Ellett & Rugutt, 1995); 2) the Faculty Resistance to Change Inventory developed specifically for this study; 3) the Faculty Self and Organizational Efficacy Assessment adapted from previous measures (Loup & Ellett, 1993); 4) the Faculty Decision-Making Deprivation Scale as modified from the School Decisional Participation Scale (Alutto & Belasco, 1973); 5) a slightly modified version of the Index of Perceived Organizational Effectiveness (Miskel et al., 1979; Mott, 1972); and 6) the Higher Education Index of Departmental Effectiveness developed specifically for this study.

Major findings of the study showed that: 1) receptivity and resistance to change are not mirror images of one another, 2) faculty efficacy relative to accomplishing teaching, research and service goals is more directly linked to organizational effectiveness than are other faculty personal and organizational variables, 3) faculty and academic unit heads perspectives about organizational effectiveness differ, and 4) there are meaningful relationships among the study variables from both the faculty and academic unit head perspectives. Major findings and conclusions of the study are discussed in view of their implications for future research, theory development and practice.

CHAPTER 1: INTRODUCTION

Overview

This study explores linkages between several variables which help mediate the process of change in higher education settings and furthers the understanding of linkages between innovations and organizational effectiveness. A framework consisting of personal and organizational variables is explicated through the development and testing of a conceptual model. Personal variables studied include higher education faculty self-efficacy, decision-making deprivation, receptivity to change and resistance to change. Organizational variables studied include perceived organizational efficacy and organizational effectiveness. A discussion focusing on the rationale and background for this study precedes the presentation of the conceptual framework guiding the study and a delineation of the study variables. Primary and supplemental research questions are also included.

Study Context

Throughout the universe there are an infinite number of change processes that simultaneously occur. Be it atom or galaxy, all *things* are part of this relative, uneven happening that dictates the evolution of physical and social entities alike (Toffler, 1970). A primitive term, change generally implies that between two points in time some noticeable alteration has taken place in something (Miles, 1964). According to Paul (1977), the process of change is not a rational one, nor is it linear or sequential . It has been described as a kaleidoscope of actions and interactions (Ayers, 1988) that has become endemic to the study of mankind.

Constantly grappling with the dyadic forces of change, the desire for stability and the need for innovation creates within the individual a paradox that manifests itself in this intricate, ongoing process. Working to maintain what one has achieved, yet simultaneously wishing to improve one's quality of life perpetuates this quest for more effective ways to resolve new or continuing problems (Human Interaction Research Institute [HIRI], 1976). As with individuals, no organization or institution is exempt from change (Benne & Birnbaum, 1969) and the desire to predict, temper and control change in organizational settings has led to substantive research aimed at explaining order and regularities in organizational behavior.

Three general phases of organizational thought have been developed since the turn of the century: 1) classical organizational thought which emphasized administrative efficiency and production (e.g., Taylor, 1947); 2) the human relations approach that focused on positive social interactions and worker satisfaction (e.g., Mayo, 1945); and 3) the behavioral science approach which drew from both earlier perspectives but added propositions from the fields of psychology, sociology, political science and economics (e.g., Simon, 1957) (Hoy & Miskel, 1991). Though the behavioral science approach dominates contemporary organizational thought, competing systems perspectives seem to preclude the formulation of a comprehensive change theory (Parker, 1980), or for that matter, a universally accepted theory of planned organizational change in complex organizations. Therefore, numerous researchers (Chauvin, 1992; Firestone & Corbett, 1988; Waugh & Punch, 1987) suggest that change processes are best explained within a conceptual framework that includes both organizational/sociological and individual/psychological variables.

Lewin's (1947) force-field theory, which provides a psychological perspective generally applicable for understanding behavior, provides a useful model for thinking about change. Lewin posits that individual behavior (B) can be explained by the function of the interaction between personal variables (P) and environmental variables (E) such that B=f(P,E). The parsimonious nature of this theory lends itself to account for any number of situations, but conversely it seems rather inadequate in reflecting the complexity of relationships and interactions among various individual and organizational variables that influence the change process and the reciprocity of relations between individual actions and responses to the environment (Bandura, 1978a).

Getzels and Guba's social systems theory (1957) is a sociological perspective consistent with Lewin's (1947) conception of behavior which provides a further explanation of the dynamic nature of the change process in organizations. Getzels and Guba explain that members of an organization arrive in their capacities with unique sets of beliefs, norms and values regarding how one should act and interact with others. These interactions, however, are not conducted in isolation of the organization's unique characteristics (i.e. prescribed roles and goals) which in turn are impacted by the larger external environment (i.e., local community, market forces, technological innovation, etc.). Thus, Lewin's original conception of behavior as a function of personal variables (P) and environment variables (E) might more accurately be reflected as B = f(PxE).

This concern for both institutional and individual dimensions to explain aspects of organizational behavior is consistent with recent approaches adopted to both understand and manage change in complex formal organizations. During the 1960-70's, attempts to integrate

the goals and objectives of organizational members with the goals of the organization resulted in a process called Management By Objectives (MBO) that was embraced by many segments of business and industry (Hersey, Blanchard & Johnson, 1996). More recently, there has been a proliferation of a popular philosophy of living and working in complex organizations known by a number of labels such as Total Quality Management (TQM) and Continuous Quality Improvement (CQI) (Chaffee & Sherr, 1992).

The forces that have provided the impetus for improved quality and efficiency in business are similar to the ones that have fostered calls for educational reform in the American public school system during the past three decades (Cuban, 1988). Faced with frequent initiatives intended to alter the structures and/or functions of elementary and secondary institutions, researchers dedicated efforts to explain the effects and interactive influences of variables which affect planned organizational change in these settings (e.g., Corwin, 1975; Fullan, 1993; Hall & Hord, 1984).

During this same period, American higher education acted as though it were immune from the ire aimed at elementary and secondary education by a dissatisfied public. Calls for a return to the basics, school choice and site-based management were not associated with the ivory towers of post secondary education. Now, however, it appears to be higher education's turn to take the brunt of policy measures fostered by a disenchanted, distrusting public (Bok, 1992; House, 1994). As a result, retrenchment, consolidation, and downsizing are restructuring realities (Myers, 1996) that have been coupled with calls for greater productivity and program quality (American Association of State Colleges and Universities [AASCU], 1993; Arnold, Underwood & Kempner, 1996; El-Khawas, 1995).

Many factors have contributed to this current state of affairs facing the academy. A shift in public perception finds higher education no longer judged simply on measures of efficiency and access, but rather on demonstrable returns on the investment in an era of shrinking fiscal resources. While self-regulation has sufficed in the past, a variety of reports alleging misdirected scholarship funds ("La. State U. Official," 1996) , misused research funds, collusion in the disbursement of financial aid, and abuses in intercollegiate athletic programs undermine public confidence (Ewell, 1994).

Accountability initiatives and lower funding levels, however, are not the only forces of change and innovation being externally imposed on the higher education community (Olson, 1996). Newly emerging technologies (Cartwright, 1994; Roth & Sanders, 1996) as well as changes in the level of academic preparation and demographic makeup of entering freshmen (i.e. more women and minorities) (Dey, Astin & Korn, 1991) continue to alter traditional methods of learning in post secondary institutions. As these and other forces of change continue to inundate higher education institutions at an accelerated pace, the importance of understanding the change process in these settings has seemingly accelerated as well. What concepts, issues and controversies about change processes in higher education are currently the most prominent? What does research on change processes in higher education settings portend?

Change Studies in Higher Education

For most of the twentieth century, the pace of change in institutions of higher education has been slow (Barzun, 1993; Siegfried, Getz & Anderson, 1995) which may account for the comparably few analytical research efforts seeking to explain aspects of organizational

behavior in institutions of higher education. Although literature describing innovation and change in higher education is voluminous, most of it seems descriptive and suppositional in nature. Only a few studies make explicit reference to systematically obtained data and/or employ theoretical orientations (Dill & Friedman, 1979). In general, studies that have been completed concerning change processes in higher education are traditionally analyzed through the use of models such as planned change, diffusion, organizational development and political interaction (Michael, 1982).

Studies describing the process of change in higher education during the early 1960's focused on the development of new institutions which employed new or innovative learning techniques, such as the cluster college concept implemented at the University of California at Santa Cruz (Levine, 1980). The scope of change studies in higher education, however, was soon broadened to examine the introduction of specific innovations into existing institutions (Evans & Leppmann, 1968; Kaslow & Giacquinta, 1974).

Innovation refers to a subset of planned organizational change (Chauvin, 1992). In functional terms it seems appropriate to define an innovation as a deliberate, specific change that is deemed to be more efficacious in accomplishing the goals of a system (Miles, 1964). According to Chauvin (1992), an innovation focuses on clearly defining ways of behaving that are new and unfamiliar to the organizational member. It should be noted, however, that innovations can be introduced which are not clearly defined to all members of an organization, a situation that can serve as a deterrent to adoption. Other attributes or characteristics of innovations which have been identified in the literature as having a bearing on levels of

acceptance by organizational members include perceived relative advantage, scientific status, efficiency, communicability, compatibility and cost. (Zaltman, Duncan, & Holbek, 1973).

The trend to examine the introduction of specific innovations into existing institutions of higher education has continued as evidenced by a number of more recent studies. For example, Bolduc (1993), Oliver (1993), and Nelson and Davenport (1996) each studied the diffusion of informational technology systems (in three separate higher education settings). Likewise, Crawford (1993) evaluated pre-service teacher education technology courses at historically black colleges and universities, Aune (1993) analyzed a statewide innovation to accommodate college students with disabilities, and Koopman (1995) compared the implementation of web-based library information at two universities. More recently, Phillips, Morell and Chronister (1996) assessed a number of policy changes implemented throughout universities nationwide in response to reduced state funding.

This examination of the introduction of new technologies, curricula, policies, etc. was primarily based on the supposition that the initiation of an innovation will lead to a positive change or benefit to the organization. In other words, the innovation is perceived to be worthwhile to those who possess the power to opt for implementation. Not unlike studies in other complex organizations, most of these research efforts were ultimately aimed at identifying and producing effective performance since it is the implicit intent of organizations to be productive. The research focus on innovations and change in complex organizations suggests a predominant concern with linkages between change processes and organizational effectiveness. The section that follows briefly summarizes pertinent literature and concepts

concerned with organizational effectiveness with a particular emphasis on higher education settings.

Organizational Effectiveness

Effectiveness in organizations has been described in many ways. Goal attainment is one method which postulates that if the outcomes generated by the efforts of the organization meet or exceed organizational goals, then the organization is perceived to be effective. Another means of determining organizational effectiveness is the use of a system resource model whereby effectiveness is correlated to the organization's ability to acquire resources (Hoy & Miskel, 1991). Both of these approaches to comprehending organizational effectiveness, however, have been criticized due to their inability to adequately explain the nuances of this complex variable (Cameron, 1978). As a result, utilization of multiple criteria has become a more accepted means of evaluating an organizations's level of effectiveness. For example, rather than restricting concerns to an outcome or "product" related measure to develop a model of school effectiveness, Hoy & Ferguson (1985) employed Parson's (1960) framework which includes four dimensions: adaptation, goal attainment, integration, and latency.

The Parsonian (1960) synthesis of the goal attainment and resource models helps to guide the selection of indicators of effectiveness in organizations. In turn, this model provides the opportunity to better understand this multidimensional variable that is a central concept in organizational analysis (Hoy & Miskel, 1991). It seems, however, that better understanding of how innovations and change processes are linked to organizational effectiveness (regardless of which indicators of effectiveness are selected) is needed.

An important body of organizational theory and research concerns the concept of organizational climate, a variable which has been found to influence organizational effectiveness. With its intellectual roots found in anthropology and the sociology of knowledge, this viewpoint deems human assemblages as voluntary associations influenced by cultural and other factors unique to individual members of organizations (Hossler et al., 1988). Cultural factors include the dominant values, norms, philosophy and rules in an organization that are arrived at over time through interactions and the development of shared meanings amongst organizational participants (Bensimon, Neumann & Birnbaum, 1989). Studies of organizational effectiveness have also been concerned with the role and characteristics of organizational members.

The factors idiosyncratic to individual members of organizations that can be studied and/or used to explain the linkages between innovation and organizational effectiveness are numerous. Indeed, it seems that studies of these personal variables have contributed much to our understanding of change processes in organizations. As Giacquinta (1973) contends, without change in the individual, organizational change does not take place.

Studies which have explored the personal characteristics of an individual that may be related to individual responses to new ideas and procedures have focused on demographic as well as psychological variables. For example, the age (Rogers, 1983; Lippitt et al., 1967), socioeconomic status (Corwin, 1972), and the cosmo politeness or orientation and contact outside of a particular social system (Becker, 1970; Evans & Leppmann, 1968) of individuals are demographic characteristics which have been studied with regard to innovation and change.

Among the psychological variables investigated that relate to change processes are one's level or need for security (Rogers, 1969; Spicer, 1952) and achievement (McClelland, 1969). Two other variables with psychological as well as sociological underpinnings that stand out in the literature are individuals' levels of receptivity to change and resistance to change. What do we know about these oft-mentioned variables and their linkages to innovation and organizational effectiveness?

Receptivity and Resistance to Change

Receptivity connotes a willingness or readiness to receive or accept. Furthermore, being receptive implies being open-minded or impressionable. As related to planned organizational change, several loosely defined theories of receptivity appear in the literature. For example, one sociological theory is linked with the concept of risk and uncertainty (Knight, 1921; Cashdan, 1990). It posits the notion that members of an organization respond to specific innovations, not innovation in general, depending upon their perception as to whether or not the innovation will enhance or detract from one's current status in the organization. For example, an individual may be very receptive to a new idea that has few perceived personal status risk consequences such as a new location for receiving mail. Yet, at the same time, an individual may be unreceptive to a planned change with high status risk such as a new employee evaluation procedure.

Another prominent theoretical perspective is psychologically based and maintains that an organizational member's receptivity to change is a function of personality variables (Evans & Leppmann, 1968). From this perspective, individuals in organizations are predisposed to relate to their environment in a consistent manner as a result of their attitudes, values, needs,

etc. Rogers (1983), for example, reports a continuum of innovativeness that identifies five adopter categories ranging from venturesome innovators (those most likely to embrace an innovation) to traditional laggards (persons most disinclined to adopt an innovation). Whatever the particular theoretical perspective on receptivity to change, this variable clearly has received much attention in the organizational change literature and it appears fruitful for studies of change processes in higher education settings.

Despite the recognition of receptivity's importance to the change process, very few instruments have been developed to measure this variable. Though some researchers have produced scales that purport to measure the trait of change (Trumbo, 1961), it was Hennigar (1979) who developed the original version of the Receptivity to Change Inventory (RCI) to assess attitudes of middle management school administrators. Crisafulli (1982) extended the use of the RCI to measure teacher's receptivity to change which in turn was slightly modified by Chauvin (1992). Chauvin's study provided evidence that receptivity to change is perhaps more complex than traditionally conveyed, finding it to be a two-dimensional construct reflecting differences in perceptions toward superficial/behavioral changes on the one hand, and more organizationally deep-seated cultural/normative changes on the other hand.

In a more recent study of change and effectiveness in schools, Loup (1994), adapted/extended Chauvin's (1992) measurements of receptivity to change and explored linkages between teacher receptivity to change, teacher self and organizational efficacies and multiple indices of school effectiveness. Her findings confirmed the complexities inherent in attempts to understand receptivity to organizational elements of change in schools, individual and organizational variables and organizational productivity/effectiveness indices.

Higher education studies have for the most part been devoid of attempts to measure receptivity among organizational members. One exception was Kaslow and Giacquinta's study (1974) that sought to determine the extent to which status characteristics or personality factors accounted for a greater proportion of the variance in faculty receptivity scores. A more recent attempt to define and measure university/college faculty members' levels of receptivity to change was undertaken by Clarke, Ellett & Rugutt (1995). Their study reports the development and results of the initial validation of an instrument designed to measure faculty receptivity to change.

Infrequent attempts to measure receptivity in higher education settings can be explained in part by three factors which have been identified as hindering the development of an adequate theory of receptivity (Giacquinta, 1975a). First, there has been an emphasis on uncovering correlates of receptivity rather than on developing models that explain relationships between these variables and receptivity (e.g., Rogers & Shoemaker, 1971). Secondly, the assumption is often made that people, and thus organizations, are inherently unreceptive to change (Coch & French, 1948; Morris & Raben, 1995), despite the fact that evidence is to the contrary (Kirkpatrick, 1985). Lastly, receptivity research is fraught with a number of conceptual and empirical ambiguities.

Key among these ambiguities are discrepancies in the literature between conceptual definitions and use of the terms receptivity and resistance. Both terms have been used to describe how an individual feels internally about a proposed innovation as well as how one acts in response to innovations being considered, introduced and/or adopted in organizations (e.g., O'Toole, 1995). This interchangeable use of the terms has further led to the

assumption in some cases that there is a one-to-one correspondence between an individual's thoughts and actions, and thus, if an individual possesses a high level of receptivity to change, there is automatically a low level of resistance to change (Giacquinta, 1975a). The complimentary and interchangeable nature of receptivity and resistance to change can be questioned on both conceptual and operational grounds. Receptivity might be viewed as an organizational member's internal orientation toward the proposed change which is not necessarily indicative of how the individual will actually respond to the implementation of an innovation. Resistance, on the other hand, might describe one's external orientation toward planned organizational change; the action(s) one embraces to stop, delay or otherwise undermine the successful implementation of an innovation. What does the organizational change literature say about the role of resistance in the change process?

Fundamental to the literature on planned organizational change is the notion of resistance. Although change can be implemented with little or no objection (Spicer, 1952), when resistance does occur it can halt or limit the successful implementation of the innovation. From this perspective, resistance is behavior which is intended to protect an individual from the negative effects of real or imagined change (Zander, 1961). Cause for resistance can originate from any number of sources (Zaltman, Duncan & Holbek, 1973) and resistant behavior can vary in both it's form (e.g., active vs passive; covert vs overt, etc.) and level of intensity (Paul, 1977).

In order to facilitate a recognition of factors contributing to resistant behavior, Watson (1969) arbitrarily divided the forces of resistance between those operating within the individual personality and those most easily identified in the social system. In reality,

however, he noted that the two forces work as one. Among the personality factors/processes that Watson identified as accounting for resistance to change are: homeostasis, habit, primacy, selective perception, dependence, superego, self-distrust, and insecurity. Factors contributing to resistance to change in social systems were identified as conformity to norms, systemic and cultural coherence, vested interests, sacred activities, and the rejection of outsiders.

Similar lists of factors have been compiled by a number of researchers. For example, Zaltman, Duncan & Holbek (1973), identified personal as well as structural factors affecting resistance. Individual resistance factors included: perception, motivation, attitude and legitimization. Structural factors affecting resistance included stratification, division of labor and hierarchical and status differentials. In fact, O'Toole (1995) submits that "a foray to the library reveals hundreds of speculations about the root causes of resistance to change" (p.161).

Frequently mentioned in the literature is that resistance to change is likely to occur when any one of a number of fears are generated in persons affected by the change (Becker, 1970). The threat to prestige or power (Bright, 1964), the threat to job security (Spicer, 1952), the fear that acceptance of an innovation would cast one as a deviant (Rogers, 1983), and even the fear of the unknown (LaPiere, 1965) are examples of such fears. Other means by which resistance can be stimulated include challenges to an individual's value system (Barnett, 1964) and arbitrarily forcing an individual to change or adopt an innovation (Spicer, 1952).

As with all formal, complex organizations, universities and colleges are subject to resistance from members of their communities. In fact, resistance to change and institutions of higher education seem to be nearly synonymous terms to some. For instance, Lindquist

(1978) and Sarason (1982) each report a particularly intense resistance to change from members of higher education organizations whereas O'Toole (1995) sarcastically remarks that academia is a place where "all change is resisted as a matter of principle" (p. xi).

The findings of Siegfried et al. (1995) seemingly provide support for these contentions and findings about organizational change and resistance to change processes. In a study of more than 200 institutions Siegfried et al. found that innovations in industry tend to be adopted twice as fast as those in higher education. Balderston (1995) also confirms the stagnant nature of change within universities in his preface to *Managing Today's University.* He states:

> Universities are remarkably flexible and resilient organizations. But financial stringency and conflicting demands on their resources have produced serious new stresses within them. In the past, these institutions were capable of growing in many directions without... being specifically accountable (to) the taxpaying public, faculty, or students. That period has ended, and universities are now asked to justify themselves... (p.xi)

Remarkably, however, the quoted material is a reprint from the first edition of his book, published in 1974. More than 20 years have transpired and the issues of accountability have in most cases been successfully resisted. If Balderston's observations/contentions and resultant inferences about resistance to change in higher education institutions over time are valid, then clearly studying change processes, the roles of receptivity and resistance to change and understanding their linkages to organizational effectiveness in higher education settings is important and continued study is both necessary and timely.

A Traditional Change Model: Linking Innovation to Organizational Effectiveness

The previous discussion has been derived from the literature on organizational change and employs traditional conceptualizations concerning the relationships and possible linkages between innovation, receptivity and resistance to change and organizational effectiveness. Though the various aspects of the processes of change defy clear separation, it is abundantly evident that change and innovation are related concepts and that organizational change and attitudinal modification are also linked (HIRI, 1976).

Multiple explanations of the change process have been presented in the literature. For example, Havelock and Havelock's (1973) summary of major perspectives on the change process included change as a problem-solving process, as a research-development-and diffusion process, as a process of social interaction and as a linkage process. Though seen from different vantage points, each of these of these models assumes the problem of effecting change is one of bringing about adoption (Parker, 1980). Each of these change models further depicts innovation as being filtered in some way through individual members of the organization with the resultant behavior of the individual affecting the level of success of the innovation.

Figure 1 reflects a majority of the existing organizational change literature, depicting a traditional, linear relationship between innovation, receptivity and resistance to change and organizational effectiveness in complex organizations such as institutions of higher education. The innovation, be it one of superficial/behavioral change or one which prescribes more deep seated, cultural/normative change (reflected in what is done, how it's done and who is involved in doing it) (Tierney, 1988), is introduced into the organization as either an idea,

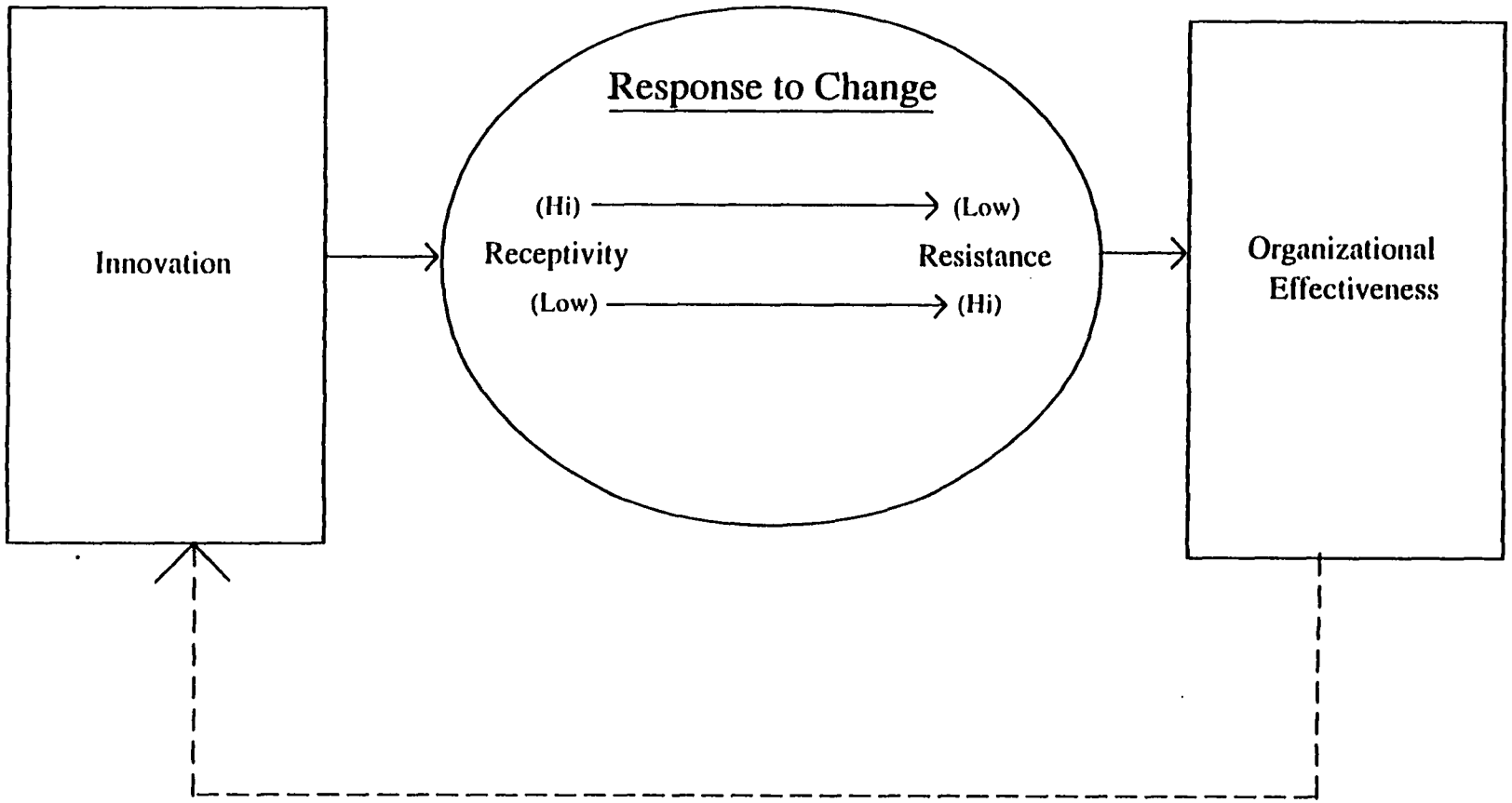

Figure 1

A traditional change model linking innovation to organizational effectiveness

program or strategy. The nature of the innovation contributes directly to the cognitive/affective and behavioral responses observed in individual members of the organization as evidenced by the level(s) of receptivity and resistance to change which are evoked. In cases where the introduction of an innovation precipitates resistance, a variety of behavioral responses ranging from passive to active and covert to overt might be expected.

From the perspective of the Parsonian (1960) framework of organizational effectiveness it is reasonable to expect that the behavior of the individual, in turn, directly affects the level of organizational effectiveness obtained and ultimately sustained. Be it passive or active, covert or overt, it seems as though levels of receptivity and resistance to an innovation by individual members of an organization have a direct bearing on the amounts of adaptation, goal attainment, integration and latency that the organization can sustain.

While the aforementioned model has been useful, since it depicts the main concerns of the organizational change literature, it does not seem to be as complete as it could be given the multiplicity of relations thought to exist between innovations, personal variables, behavior of organizational members and organizational effectiveness. Instead, there appears to be a need to develop a more inclusive view of the change process in organizations which not only delineates linkages to organizational effectiveness but incorporates additional theories of behavior as well. For example, Fullan and Stiegelbauer (1991) advocate utilization of a "multiplicity perspective" when identifying factors affecting successful initiation and implementation of change and Fullan (1993) also indicates the need to embrace a new mind set about the concept of educational change as a way to help manage the "unknowable" that emanates from the reality that change in complex organizations is nonlinear.

The Case for Personal Variables

Since individual's can be considered the filters through which innovations must be processed in an organizational setting....(in essence the lens through which the process refracts)....understanding how personal variables mediate this process seems of particular importance. The literature is replete with personal variables thought to affect behavior that could be utilized to expand the traditional model described above. For example, intelligence, life history (experiences), job security, professional orientation, etc. are all personal variables which could be utilized to further the exploration of human adaptation to change and innovation processes in organizational contexts. Recent education change literature has identified decision-making deprivation and efficacy as two personal variables which seem to be key to understanding the behavior of members of organizations. What research has been conducted utilizing these two personal variables? How are these variables linked to the change process?

Decision-Making Deprivation

Since all formal organizations are basically decision-making structures, understanding the decision-making process seems essential for persons studying organizational change processes. According to Hoy & Miskel (1991), four basic strategies for managerial decision making are predominant in the organizational literature: 1) the classical model which unrealistically assumes decision making to be a completely rational process; 2) an administrative model which incorporates Simon's (1957) strategy of satisficing (searching for satisfactory alternatives rather than optimal ones); 3) incrementalism which postulates that smaller changes are less apt to result in negative consequences for the organization than larger

changes; and 4) Cohen, March & Olsen's (1972) garbage-can model which is useful for understanding the pattern of decisions for situations of organized anarchy.

Of perhaps equal importance to understanding how decisions are made within an organization is the determination of who is involved, and to what degree individual's are allowed to participate in the decision-making process. Centralization and its counterpart, decentralization, are terms used to describe the distribution of decision-making power which exists in an organization. In a centralized organization the control of the decision-making process is held by only a few individuals while in a decentralized organization control of the decision-making process is found throughout the organization (Johnson, 1991).

Several studies of the change process in organizations have concluded that extensive participation by all persons concerned in the identification and solution of organizational problems is conducive to change (Coch & French, 1948; Hage & Aiken, 1970). Similarly, Kirkpatrick (1985) posits that the most significant reason that individuals will accept or resist change is the amount of participation that they are allowed in the decision-making process. In studies examining the relationship between centralization and effectiveness in public school settings Ellett and Logan (1990) concluded that more effective schools are perceived by teachers as having decentralized decision-making structures.

In a more recent effort, Johnson and Ellett's (1995) findings suggest that organizationally effective schools may be schools in which discrepancies between desired and actual levels of teacher participation in decision making are in harmony. This concept of decision-making deprivation and its correlation to work alienation and organizational effectiveness is potentially useful to the analysis of change processes in higher education settings. This seems

particularly the case since the current structure of decision making in these institutions is seen as an overlapping maze of competing committees and administrative offices that produce "circular decision making" and "death by terminal committee" (Lindquist, 1978 p. 25). The autonomous nature of being a faculty member implies an expected amount of participation in the decision-making and governance processes of a university. However, it may be that in this confusing, and thus frustrating structure, effective institutions are those where the desired and actual levels of faculty input into the decision-making process are found to be closely aligned and not those where decentralization is greatest.

Personal and Organizational Efficacy

During the past two decades the primary conceptualizations of human efficacy are associated with the works of Bandura (1977; 1982; 1993). Self-efficacy is posited as an important self-perception construct that mediates linkages between cognition and behavior. Research findings have generally supported the contentions of the role of self-efficacy in social cognitive theory, however findings have not been as successful in clarifying the nature of the relationship between self-efficacy and other expectancy beliefs (Pajares, in press-b).

Bandura's (1977) theoretical framework distinguishes efficacy expectations from outcome expectations. He defines outcome expectancy as an individual's estimate that a given behavior will lead to certain outcomes while efficacy expectation is explained as the belief that one can successfully execute a behavior required to produce the outcomes. Efficacy expectations thus "determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences. The stronger the perceived self-efficacy, the more active the efforts" (p.194).

Bandura (1977) further explains that efficacy expectation is not to be construed as the only determinant of behavior. He posits, however, that if an individual possesses appropriate skills and adequate incentives then efficacy expectations are major factors in determining one's choice of activities, the level of effort to be expended and how long one will sustain effort in dealing with stressful situations.

Generality, strength and magnitude are dimensions of efficacy that Bandura (1977) makes reference to. Generality is the extent to which competency and motivational elements span a variety of situations. Bandura (1986) and Pajares (in press-b) argue against the use of broad, global self-efficacy measures because judgements of self-efficacy are task- and domain-specific. Other researchers (e.g Locke & Latham, 1990) , however, have chosen to measure self-efficacy in relation to a range of performance levels as a matter of practical utility. The strength dimension is the perceived amount of effort needed to accomplish tasks (relative to perceived competence and motivation), and magnitude is the perceived difficulty of tasks (Loup, 1994).

If it is true that the theory of efficacy provides a comprehensive theory for understanding human behavior in general, then it would seem to be an important consideration for understanding behavior of individuals in organizations. Its applicability for use in studies of change processes seems to be particularly relevant as it not only conveys a comprehensive explanation of the complexities of human behavior, but specifically addresses issues pertinent to innovation, receptivity and resistance, and organizational effectiveness. For example, Fuller, Wood, Rapoport & Dornbusch (1982) note that program implementation and

evaluation studies have increasingly pointed to efficacy as a significant determinant of resistance to, or persistence of, organizational interventions.

In another study, Bandura and Cervone (1983) suggest that beliefs of high efficacy enhance motivation. Other research in psychology indicates that high efficacy promotes higher goal-setting behaviors, and influences persistence and commitment to goal attainment (Latham & Locke, 1986; Locke, Shaw, Saari, & Latham, 1981). Lawson and Ventriss (1992) additionally suggest that strong organizational cultures that stress innovation and change may enhance an individual's perceived self-efficacy.

Recent work by Bandura (1993) has resulted in the inclusion of a collective dimension to efficacy. In this instance members of a school staff who collectively perceived themselves as capable of promoting academic success in their students were able to create a positive ambience for achieving academic goals. Loup (1994) has extended the understanding of the efficacy construct as an organizational level variable with the development of the Teacher Self and Organizational Efficacy Assessment (TSOEA) instrument. She found that the efficacy construct can not only be conceptually and empirically verified at the individual teacher (self/personal or "Me") level and the teacher organizational (all other teachers in a school or "Thee") level, but also at the "We" level when the "Me" and "Thee" are merged in view of teacher responses to repeated failures to accomplish school goals. This finding posits the efficacy construct in schools to be a multi-dimensional construct which is more complex than described in previous literature.

As evidenced by the Bandura (1993) and Loup (1994) efforts, much of the research concerning the efficacy construct has been conducted in public school settings. For example,

teacher self-efficacy has been investigated in a number of studies (e.g., Gibson & Dembo, 1984; Woolfolk & Hoy, 1990). In a recent departure from this mode, Ellett (1995) has investigated the efficacy construct in social work settings. Comparatively few research studies concerning efficacy have been conducted in higher educational institutions. Studies that have been conducted concerning efficacy in these settings have typically involved efforts pertaining to student persistence, college major and career selection (Pajares, in press-b) and attitudes toward technological innovation (Delcourt & Kinzie, 1993).

A New Change Model

Given the above discussion regarding decision-making deprivation and theories of efficacy, it appears that the traditional change model linking innovation, receptivity and resistance to change and organizational effectiveness as presented in Figure 1 does not adequately address the complexity of the change process. Therefore, the following conceptual framework (Figure 2) is proposed to explain linkages in the change processes in higher education settings. Use of this model allows for the incorporation of more recent ideas concerning behavior in organizations. The model also seems to more accurately reflect obvious complexities of change processes and how these may be linked to organizational effectiveness and characteristics of organizational members. Specifically, decision-making deprivation and efficacy (self and organizational) are variables added to the original model as mediating linkages between the introduction of innovation in higher education settings and receptivity and resistance to change in faculty members. From the literature it is apparent that decision-making deprivation, the discrepancy between desired and actual levels of participation in the decision-making process by members of an organization, is a variable

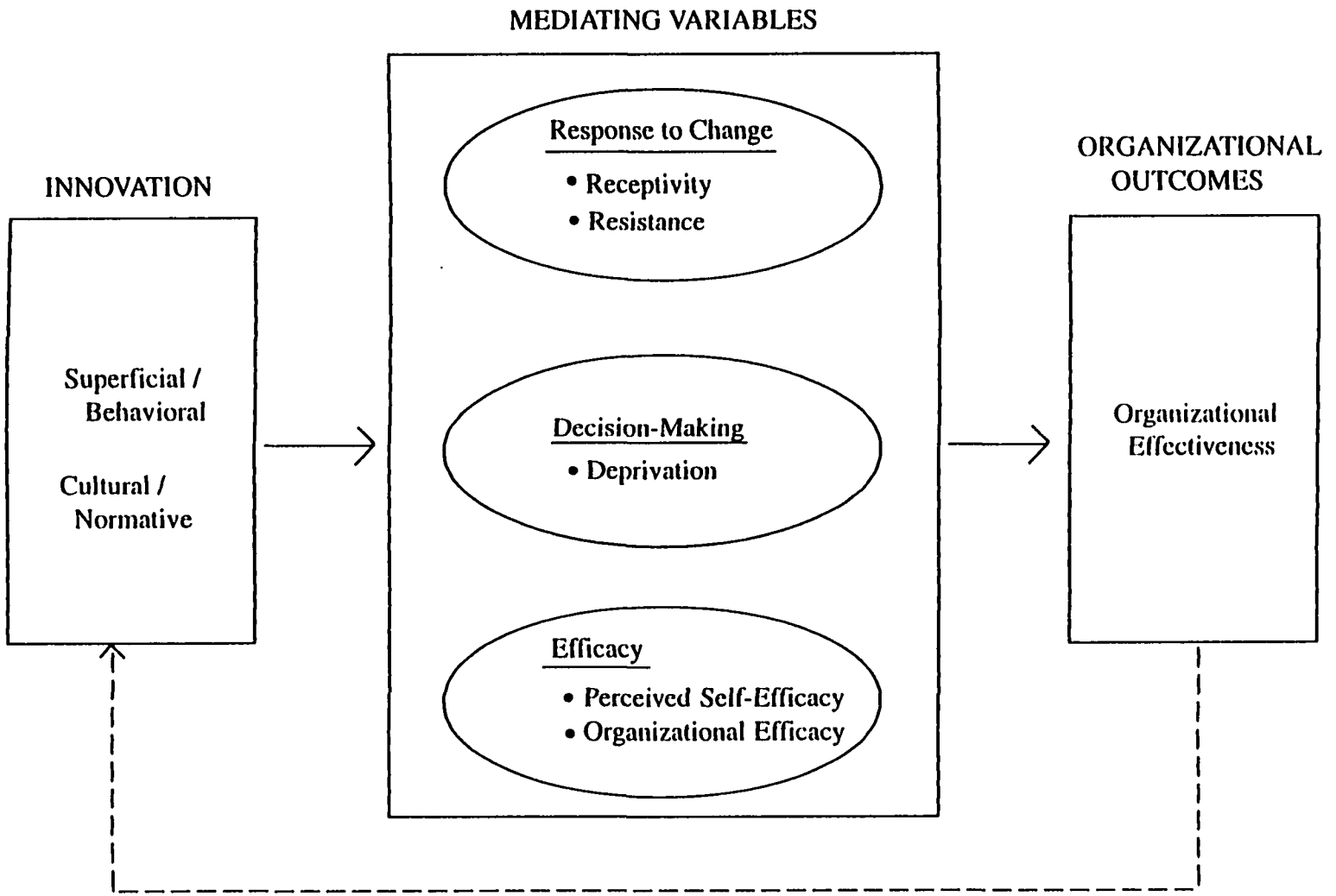

Figure 2

Model of change and effectiveness in higher education (MCEHE)

clearly related to innovation as well as to other variables in the change process in higher educational settings. For example, the inclusion or exclusion of organizational members in the decision-making process has consistently been found to impact both the level of individual member's receptivity and/or resistance to change as well as the organization's level of productivity (Bavelas & Strauss, 1961; Coch & French, 1948; Kirkpatrick, 1985; Zander, 1961). Johnson & Ellett's (1995) findings that link this variable to organizational effectiveness provide further evidence that learning more about decision-making deprivation will lead to a better understanding of the process of change.

Efficacy is included in the model for a number of reasons. Foremost, it is a theoretically rich construct that helps to explain interactions between individuals and their environments. Bandura's theory (1977) posits a central processor of efficacy information whereby individuals process, evaluate and integrate sources of information concerning their capability and thus regulate their behavior accordingly. The inclusion of this cognitive dimension seems of particular importance to help understand the change process in higher education settings. Efficacy also helps to explain the way in which learning occurs in a social environment. The development of "learning organizations", those expert at dealing with change as a normal part of work, has been identified by Fullan (1993) as essential to achieving greater effectiveness and thus accentuates efficacy's relevance to the proposed model.

The strengths and the directions of the linkages presented in this model are somewhat speculative. For example, it might be that recursive and nonrecursive relationships between the variables are possible. From the literature, however, it seems evident that each of the variables represented plays a part in the process of change in higher education settings and

each mediates, to some degree, linkages between the initiation of an innovation and subsequently attained levels of organizational effectiveness.

Each of the variables chosen for inclusion in the model: decision-making deprivation, self-efficacy, organizational efficacy, resistance to change, receptivity to change and organizational effectiveness has been conceptually and theoretically grounded in the change literature yet not enough is currently known about them individually (and certainly not collectively) to make definitive speculations about how they are linked. This study begins to fill this void in the knowledge base.

Statement of the Problem

Although literature describing the change process in higher education is voluminous, as previously mentioned, most of it is descriptive and suppositional in nature. The change process itself is inordinately complex and little is known about how personal and organizational variables which impact the process are linked. Significantly, there is no known conceptual framework for understanding these linkages in complex organizations in general, and higher education organizations in particular. This study addresses this void by developing and refining a conceptual framework which includes both personal and organizational variables prominent in the literature of organizational change and behavior theory: innovation, decision-making deprivation, self-efficacy, organizational efficacy, receptivity to change, resistance to change and organizational effectiveness.

Additionally, there are no known valid, reliable measures of higher education faculty receptivity to change, faculty resistance to change, faculty efficacy or faculty decision-making deprivation. This study addresses this problem through the development of quantitative

measures for both faculty receptivity to change and faculty resistance to change, and by refining existing instruments to measure faculty efficacy and faculty decision-making deprivation.

Furthermore, previous research efforts concerned with the superficial/behavioral and cultural/normative subscales of receptivity to change have not been completed in institutions of higher education. Likewise, there are no known studies of decision-making deprivation with higher education faculty. As such, this study serves to test the generalizabilty of previous research findings concerning these variables to higher education settings and adds to the void in the knowledge base of organizational change, effectiveness and behavior theory.

Purpose

This study is exploratory in nature and its purpose is three-fold. First, a conceptual framework is developed to link innovation and organizational effectiveness in higher education settings through the mediating variables of faculty decision-making deprivation, self-efficacy, organizational efficacy, receptivity to change and resistance to change. Second, original instrumentation is developed to measure faculty receptivity to change and faculty resistance to change. Third, linkages and interactions between the variables in the conceptual framework are examined through the collection and analysis of data using causal modeling procedures and appropriate variable comparisons.

Significance/Importance of the Study

Universities are often perceived as being highly resistant to change and innovation (Balderston, 1995; Martin, 1969). In fact, innovations in industry tend to be adopted at twice the speed as those in institutions of higher education (Siegfried, Getz & Anderson,

1995). Presently, however, there is increasing pressure being placed upon colleges and universities both internally and externally to enact change and adopt innovations that will improve efficiency and accountability (Ernst & Segall, 1995; House, 1994). Thus, the importance of increasing our understanding of the process of change in higher education settings seems to have particular merit at this time.

The timing of this study, however, is but one of several reasons that it is significant and important. There are comparatively few analytical research efforts seeking to explain aspects of organizational behavior in higher education, despite the fact that much has been written about innovation and change in post secondary settings. This reliance on descriptive and suppositional work has resulted in a dearth of empirical data which is ultimately needed to guide future research and theory development. Thus, this study is significant because it provides the opportunity to collect data relevant to the process of change in higher education in addition to building nomological networks (Cronbach & Meehl, 1955) for numerous variables (decision-making deprivation, self-efficacy, organizational efficacy, receptivity to change, resistance to change and organizational effectiveness). The building of nomological networks is of particular relevance given the absence of a comprehensive change theory or a universally accepted theory of planned organizational change in complex organizations (Parker, 1980).

This study is also significant because it broadens our understanding of the aforementioned variables, which have not been previously studied in concert in the context of higher education settings. For example, decentralization of decision-making authority within schools is among the most popular elementary and secondary school restructuring themes of recent

years. Calls for shared decision-making and site-based management have typified efforts to redistribute power from administrators to teachers. Though a lack of empirical data to examine the effects of this push for decentralization has been alleged, recently the decision-making deprivation construct has been linked to organizational effectiveness in public schools (Johnson & Ellett, 1995). Still, no similar efforts are known to have been conducted in higher education settings, and no known studies have attempted to link decision-making deprivation to receptivity and/or resistance to change in any organizational setting.

Likewise, efficacy has been identified as an important factor that influences human behavior. Bandura (1982) posits that efficacy is not a fixed act, but rather involves a generative capability of organizing cognitive, social, and behavioral skills into integrated courses of action. Self-efficacy judgements influence choice of activities and also determine how much effort individual's will expend and how long they will persist in the face of obstacles or aversive experiences. Most research has targeted teacher perceptions of self-efficacy in terms of classroom management issues and concerns (Gibson & Dembo, 1984). Researchers have also linked teacher perceptions of self and organizational efficacy to receptivity to change and organizational effectiveness (Fuller, Wood, Rappoport & Dornbusch, 1982; Offerman & Gowing, 1990; Loup, 1994). Very little, however, has been written with regard to the efficacy of higher education faculty as efficacy studies in higher education settings are typically concerned with student persistence.... not with organizational change (Crick, 1980).

Organizational efficacy is a construct which has received somewhat less attention than self-efficacy, although Loup (1994) recently extended the understanding of this variable by

finding the efficacy construct in schools to be multi-dimensional and more complex than described in previous literature. Lawson and Ventriss (1992) explored the organizational efficacy construct in a university setting by employing a case study method. Collection of empirical data in this study, however, is the first known attempt to quantitatively measure this variable in a higher education setting.

Another reason this study is important, is that it provides information useful in clarifying the many ambiguities and discrepancies between conceptual definitions and use of the terms receptivity and resistance to change that pervade the literature. Higher education studies have for the most part been void of attempts to measure receptivity among organizational members, and this lack of research is attributable in part to the interchangeable use of the two terms. The development of psychometrically sound measures of faculty receptivity to change and faculty resistance to change is an important step in differentiating between these two constructs. If it can be shown that receptivity and resistance to change are in fact different variables that preclude a one-to-one relationship between thought and action (as is often assumed), it would add greatly to the theoretical significance of this study and the measures developed here could then be used in a variety of subsequent studies.

Finally, if it can be shown in this study that variation in one's level of decision- making deprivation, self-efficacy, perception of organizational efficacy, receptivity to change and/or resistance to change accounts for a variation in organizational effectiveness there is not only significance for theory development, but also for policy and practice. Information garnered as a result of this study can be used to assist administrators in designing organizational

structures to facilitate decision-making processes and produce levels of self and organizational efficacy that would most likely enhance organizational effectiveness.

Study Variables

Conceptual/Operational Definitions

A conceptual definition, followed by an operational definition, is provided for each of the independent and dependent variables in the study in the following subsections.

Independent Variables

Decision-Making Deprivation: Decision-making deprivation is a need state of an individual that has both cognitive and affective elements that vary in intensity depending upon the level of harmony and/or disharmony between one's desired level and actual level of one's decision-making power. Decision-making power is to be understood in terms of degree of input (participation) in the decision-making process. Individuals, therefore, whose actual participation in decision-making matches their desired level of participation are considered to be in a state of equilibrium in which decision-making deprivation is minimal. Likewise, the greater one's level of decision-making deprivation (a state of disequilibrium), the greater the need to return to a state of equilibrium.

Decision-making deprivation is defined in this study as the difference between the *desired* level of university decision-making power a faculty member perceives to possess and the *actual* level desired. The greater the difference between desired and actual levels of decision-making, the greater is one's level of deprivation. It should be noted that although actual levels of participation in decision-making may be an important perspective to explore, this study is concerned with the level of equilibrium/disequilibrium that exists between desired and actual

levels of a faculty member's university decision-making power. In this study, the operational definition of faculty decision-making deprivation is a version of the Alutto-Belasco School Decisional Participation Scale (SDPS), modified for this particular study (Alutto & Belasco, 1973; see also Bacharach, Bamberger, Conley, & Bauer, 1990; Conway, 1976; Mohrman, Cooks & Mohrman, 1978).

Efficacy: Efficacy is a psychological construct that has both affective and cognitive components. Posited by Bandura (1977) as an important self-perception construct that mediates linkages between cognition and behavior, efficacy expectation is the personal belief that one can successfully execute a behavior required to produce desired outcomes. Efficacy expectation is a major factor in determining the choice of activities, the level of effort to be expended and the length of time one will sustain effort in dealing with stressful situations. The stronger the perceived self-efficacy the more active are the efforts of the individual.

In this study, efficacy will be viewed from two perspectives reflected in Bandura's (1977) theory of the role of efficacy in determining human behavior. On the one hand efficacy is defined as the faculty member's personal judgement of motivation (effort and persistence) to achieve various organizational goals which is based on perceived personal capabilities to organize and execute courses of action required to accomplish goals. The motivational elements of the efficacy construct reflect faculty perceptions of: 1) degree of initial effort/task persistence; 2) persistence in face of uncertainty and in overcoming obstacles/barriers; and 3) willingness to persist in the pursuit of future goals in spite of repeated failure (Loup, 1994). Organizational efficacy, on the other hand, is the collective efficacy perceptions of members in an organization and it has both motivational and competence components.

Recent research has resulted in the inclusion of this collective dimension of efficacy (Bandura, 1993; Lawson & Ventriss, 1992) with Loup (1994) extending the understanding of the efficacy construct with the development of the TSOEA instrument. She found that the efficacy construct can not only be conceptually and empirically verified at the individual ("Me") level, but also at the "Thee" level (all members of an organization) and the "We" level (a merger of the "me" and "thee" responses in view of repeated failures to accomplish organizational goals). Ellett (1995), in a study of self and organizational efficacy in social work settings, has partially replicated these findings. Thus, Bandura's (1977) conception of efficacy outcomes expectation (the belief that one can be successful in accomplishing goals) is addressed as well. In addition these two theory based elements of efficacy were explored from a faculty personal (individual) and organizational (collective) perspective.

Faculty organizational efficacy is defined as faculty judgements of fellow faculty members' collective motivations (effort and persistence) to accomplish various types of organizational goals (Loup, 1994). Faculty organizational efficacy is operationalized by faculty scores on the subscales of the Faculty Self and Organizational Efficacy Assessment (FSOEA), a modified version of Loup & Ellett's (1993) Teacher Self and Organizational Efficacy Assessment (TSOEA) which incorporates Ellett's (1995) more recent work with social work and health care professionals.

Receptivity to Change: Receptivity to change is a belief state or trait of an individual that has strong cognitive and affective components. It is the degree to which an organizational member is able or ready to accept, or adopt a particular change or innovation (Chauvin, 1992). In this study, as in Chauvin's (1992), receptivity to change includes a faculty

member's readiness or internal orientation toward planned organizational change and does not necessarily dictate how the faculty member may actually act in response to university change efforts. Receptivity to change includes the full range of internal orientation along a continuum from strong, positive receptivity (i.e., definitely would support the proposed innovation) to strong, negative receptivity (i.e., definitely would not support the proposed innovation). In this study the operational definition of receptivity to change is a revised form of the Inventory of Receptivity to Change in Higher Education (IRCHE) (Clarke, Ellett & Rugutt, 1995).

Resistance to Change: Resistance to change is observable behavior of individuals that is an evident response in opposition to an innovation. Resistance to change is defined as the degree to which a faculty member will oppose an innovation once it has been implemented. Unlike receptivity to change, resistance to change describes the faculty member's external orientation toward organizational change; the action(s), both overt and covert, that one embraces to stop, delay or otherwise undermine the successful implementation of an innovation. Resistance to change is operationalized by the Faculty Resistance to Change Inventory (FRCI) which was developed specifically for this study.

Dependent Variables:

Organizational Effectiveness: Organizational effectiveness is a broad based construct that refers to the extent to which an organization accomplishes a variety of organizational goals. In this study organizational effectiveness is defined as the extent to which faculty members are able to establish and accomplish institutional goals in a manner that is efficient, adaptable, and flexible to the needs of the organization and that ensures a high quantity and quality level

of organizational product. Organizational effectiveness is operationalized in this study using faculty scores on the Index of Perceived Organizational Effectiveness (IPOE) (Miskel, Fevurly & Stewart, 1979; Mott, 1972) and academic unit head scores on the Higher Education Index of Departmental Effectiveness (HEIDE), an instrument specifically developed for this study.

Definition of Terms

The following statements are provided as working definitions for several terms associated with the process of change for the purpose of increasing clarity.

Planned Organizational Change: This term refers to intentional and positive change efforts rather than accidental or unintended change. It is considered synonymous with "organizational change". The terms represent processes and refer to interactions among organizational members within a particular context and the use of any method or specified set of strategies designed to purposefully alter behaviors, attitudes, beliefs and/or orientations within the university (Chauvin, 1992).

Innovation: Innovation is any proposed idea or set of ideas about how the organizational behavior of members should be altered in order to resolve problems or improve the performance of the organization (Gross, Giacquinta, & Bernstein, 1971). Innovation refers to a subset of planned organizational change that includes deliberate, novel and specific change for user(s). An innovation encompasses a narrow focus on behavior and includes clearly delineated ways of behaving (e.g., a clearly specified evaluation process) which are new and unfamiliar to the user(s) (Chauvin, 1992). Innovation typically refers to a specific

identifiable program or strategy which is thought to be more efficacious in accomplishing the goals of a system (Miles, 1964).

Statistical significance: Since this study is exploratory, two-tailed tests of statistical significance ($p < .05$) are used.

Research Questions

As this is an exploratory study focusing on the development of a conceptual framework and the utilization of new measures, a series of primary and supplemental questions have been used to guide the data analyses instead of hypothesis statements deductively derived from theoretical frameworks. Relationships among the independent and dependent variables in the conceptual framework are examined by the development of primary research questions. In order to gain an understanding of relationships among study variables and their generalization across contextual factors in institutions of higher education, supplemental research questions were generated. The primary and supplemental research questions that were used to guide the study are presented in the following section.

Primary Research Questions

Question 1

What is the nature of the empirically-derived receptivity to change constructs measured by the IRCHE?

Question 2

What is the nature of the empirically-derived resistance to change constructs measured by the FRCI?

Question 3

Are there statistically significant, bivariate relationships between any of the independent variables (decision-making deprivation, self-efficacy, organizational efficacy, receptivity to change, and/or resistance to change) and the dependent variables (two measures of organizational effectiveness)?

Question 4

Is there empirical support for the conceptualization of resistance to change as different from receptivity to change?

Question 5

To what extent is a faculty members' level of decision-deprivation and response to change (receptivity and/or resistance) mediated by efficacy variables?

Question 6

Which study variables, and in what combinations do the study variables explain organizational effectiveness in higher education settings?

Question 7

What are the structural relationships, as well as the order, strength and direction of the linkages between variables in the conceptual framework?

Supplemental Research Questions

Supplemental research questions were developed in this study as results of the primary data analyses fostered the need for additional inquiry. They are as follows: 1) Are there score differences on the independent and dependent variables of the study among selected faculty groups classified by various demographic variables? 2) Are there score differences between

individual Inventory of Receptivity to Change in Higher Education (IRCHE) and Faculty Resistance to Change Inventory (FRCI) items and selected faculty demographic variables?, 3) To what extent do the general relationships among independent and dependent variables in the study, using academic unit means as the units of analysis, vary within sample academic units, using individual faculty members as the units of analysis?, and 4) Are there statistically significant, bivariate relationships between perceptions of the study variables/subscales by faculty and how academic unit heads predict a typical member of their faculty will perceive these variables/subscales?

Limitations

1. The generalizability of the results of this study is limited by the type of institution and the characteristics of the faculty from which the data were obtained.

2. Responses elicited from faculty were voluntary. As such, those faculty members who completed and returned the instruments might be viewed as more conscientious or interested in the study than those who did not return them. Other limitations of survey research are also acknowledged.

3. Some relationships between variables that have been ascertained may be mediated by common method variance between the various measures employed in the study.

Assumptions

1. Self-report data was collected from faculty and academic unit heads for use in this study. As a result, it is assumed that respondents were reasonably honest in reporting their perceptions of their university work environment.

2. It is also assumed that what faculty respondents have reported they might do (for example, various forms of resistance) is actually what they will do.

Chapter Summary

A brief overview of the literature, germane to each component of the conceptual framework used to guide this study, has been presented in Chapter 1. A statement of the problem as well as the purpose and the significance of the study are also presented. Primary and supplemental research questions which are derived from the conceptual model are presented. The chapter concludes with statements concerning limitations and assumptions of the study.

An extensive review of the literature relative to the major components in the conceptual framework is presented in Chapter 2.

CHAPTER 2: REVIEW OF RELATED LITERATURE AND RESEARCH

Introduction

Chapter 2 of this proposal reviews related literature and research pertinent to the variables depicted in the conceptual framework proposed in Chapter 1 (Figure 2) to explain linkages in the change process in higher education settings. This review provides a synopsis of research efforts relative to understanding the constructs of planned organizational change, organizational effectiveness, decision-making deprivation, personal and organizational efficacy, receptivity to change, and resistance to change. Chapter 2 begins with a review of perspectives on organizational change, organizational effectiveness and a discussion of change in higher education settings. Subsequent reviews of related literature for each of the study's independent variables are then presented.

Perspectives on Organizational Change

According to Lewin (1947), change and constancy are relative concepts. Group life, he contends, is never without change; there are merely differences in the amount and type of change that exist. Though numerous researchers have embraced this notion that change is an on-going process (Bennis, 1961; Fullan & Stiegelbauer, 1991; Hall & Hord, 1984; Havelock & Havelock, 1973; Hord, Rutherford, Huling-Austin, & Hall, 1987; Lippitt, 1973), the process of change has remained poorly defined (Giacquinta, 1975b) and a comprehensive theory of change has remained unattainable (Goodman & Kurke, 1982; Moore, 1961; Parker, 1980).

Historically, numerous attempts to understand the process of change emanate from knowledge utilization studies which focus on the time-lag between the conception of a

desirable new idea and its adoption by individuals (Becker, 1970; Bolduc, 1993; Cancien, 1967; Coch & French, 1948; Glaser, Abelson & Garrison, 1983; Rogers & Shoemaker, 1971). Such studies have identified literally hundreds of variables that influence the likelihood of innovation adoption including characteristics of the innovation itself, the information transfer process, the organization or community in which the innovation is expected to be implemented, and the individuals involved in the adoption of the change (HIRI, 1976; Rogers, 1983; Zaltman, Duncan & Holbek, 1973). Thus, in studies of change in complex organizations, the examination of these factors related to individual, political, economic and organizational realities and constraints has gained prominence in the change literature (Firestone & Corbett, 1988).

Attempts to explain and understand the influences and interactions of these variables has led to the development of numerous perspectives on the process of change in organizations. A social-systems model of organization developed by Getzel and Guba (1957) has proven useful for understanding both the individual and institutional dimensions of organizational behavior as influenced by both the unique characteristics of the organization as well as the larger external environment.

In an early analysis of the change literature, Havelock & Havelock (1973) identify four major perspectives on the change process: change as a problem-solving process, change as a research-development-and-diffusion process, change as a process of social interaction, and change as a linkage process. Among other approaches to understanding change processes in organizations are perspectives related to power equalization (Leavitt, 1965), organizational

development (Beer & Walton, 1990; Fullan, Miles & Taylor 1980), client concerns (Hall & Hord, 1984) and goals, plans and performance (Locke & Latham, 1990).

Though each of these aforementioned perspectives/models provides a simplified approach for understanding the process of change, McLaughlin & Pfeifer (1988) allege that organizational change of any type is difficult to implement and manage. Fullan & Stiegelbauer (1991) also caution that since the change process is riddled with dilemma, ambivalence and paradox, one is likely to underestimate the complexities of the change process.

Perhaps as a result of the contention that change in dynamically complex circumstances is non-linear and that the predictability of the process is therefore imperfect (Stacey, 1992), Fullan (1993) speaks of a new mind set for change as represented in the writings of Senge (1990) and Stacey (1992). Central to this new mind set is the development of "learning organizations", expert at dealing with change as a normal part of work, not merely in relationship to the latest policy or innovation. Rather than attempting to determine how best to manage, force or control change, this new perspective is intent on recognizing patterns of change within an organization and teaching that complexity, dynamism and unpredictability are not merely obstacles but a normal, expected occurance (Stacey, 1992).

If the change process is as complex and unpredictable as proponents of this new paradigm contend, one might ask why study organizational change at all? Fullan & Stiegelbauer (1991) note that "the capacity to bring about change and the capacity to bring about improvement (however) are two different matters. Change is everywhere, progress is not" (p.345). By viewing the concepts of improvement and change in relationship to one another, the value of studying organizational change becomes more apparent.

Research on Organizational Effectiveness

Improvement and/or progress made by an organization implies that a level of effectiveness has been achieved. Hall (1980) refers to organizational effectiveness as "the ultimate question in any form of organizational analysis... (it) remains the dependent variable to be explained, sought or opposed"(p. 536). Hoy & Miskel (1991) also describe the centrality of organizational effectiveness to organizational analysis, yet despite the importance placed upon the concept of organizational effectiveness it remains a difficult problem for theorists, researchers and practitioners alike as there is no general agreement on either the construct's definition or measurement (Hoy & Ferguson, 1985).

Two basic approaches to organizational effectiveness are found in the literature - the goal model and the system resource model (Goodman & Pennings, 1977). The goal model, with it's ties to Weber's (1947) rational model of bureaucracy, is a functionalist view that infers an organization is successful to the extent that it achieves its goal (Etzioni, 1964). The system resource model suggests that it is not possible to define specific goals in any meaningful way and thus the major concern of an organization is to survive and grow. In this model an organization's effectiveness is determined by it's ability to compete for, and it's efficient use of, scarce and valued resources (Campbell, 1977).

Criticisms of aspects of both the goal model and the resource acquisition model and their general inability to adequately explain the nuances of this complex variable (Cameron, 1978) have led to a general acceptance of utilizing multiple criteria for evaluating an organization's effectiveness. One model which has been useful in determining effectiveness criteria is offered by Parsons (1960). His theoretical framework suggests that the survival of a social

system is dependent on solving four critical problems: adaptation, goal attainment, integration and latency.

Mott (1972) employed this Parsonian (1960) framework in developing a multi-faceted approach for measuring organizational effectiveness in a number of settings. Contending that effective organizations"are those that produce more and higher quality outputs and adapt more effectively to environmental and internal problems than do other similar organizations" (p.17), Mott proposed the utilization of multiple organizational outcomes to determine effectiveness: the quantity and quality of the product, efficiency of production and the flexibility and adaptability of the organization.

Validation of Mott's (1972) Index of Organizational Effectiveness was established in ten hospital studies and in a study of the National Aeronautics and Space Administration. Later modified slightly by Miskel et al. (1979) and Miskel, Bloom and McDonald (1980) for use in studies of schools, the Index of Perceived Organizational Effectiveness (IPOE) has consistently yielded high alpha coefficients of reliability (Claudet, 1993; Hoy & Ferguson, 1985; Johnson, 1991; Logan, 1990; Loup; 1994).

Change Research in Higher Education Settings

The role of the university in American society has evolved gradually during the past century from "a marginal, backward-looking enterprise shunned by the bulk of the citizenry (that) today is a major growth industry... exercising an indirect effect on the whole of society" (Jenks & Riesman, 1977, p.13). This transformation of higher education in America took place during tremendous economic expansion (House, 1994) and was done without the need to assess mission or scope and without being accountable either financially or otherwise to

the public (Balderston, 1995). When the economy faltered in the early 1970's, however, public scrutiny of America's system of higher education began and today the calls for reform and accountability are omnipresent (AASCU, 1993; Education Commission of the States [ECS], 1994; Lissner & Taylor, 1996).

Though the quantity and intensity of the calls for reform and accountability have increased, studies have consistently found that institutions of higher education are comparatively slow to change (Barzun, 1993). Martin (1969), for example, notes that changes in education occur at a far slower rate than changes elsewhere in society despite the general conclusion drawn from his nationwide survey of 577 faculty members "that the weight of opinion is clearly on the side of change"(p.163). For example, DeSieno (1995) reports that a recent study by the University of Southern California revealed that less than five percent of university faculty utilize computing to aid classroom instruction or enrich student learning. Likewise, Siegfried, Getz & Anderson (1995) found in a survey of more than 200 institutions that innovations in industry tend to be adopted twice as fast as those in higher education.

Reasons for this "snail's pace of innovation" (Siegfried et al., 1995, p.56) remains primarily speculative as systematic studies regarding how colleges and universities change have been historically lacking and change literature in higher education has been "overwhelmingly descriptive rather than analytical" (Dill & Friedman, 1979). Among the reasons that have been posited for this apparent inflexibility in higher education institutions include "deeply rooted norms, values, sub-groups and power relations with great complexity, low formalization and decentralization" (Lindquist, 1978, p.29).

Research concerning organizational culture in higher education, defined consistently in the literature as shared beliefs and values held by organization members (Masland, 1985; Peterson & Spencer, 1990; Tierney, 1988), tends to support Lindquist's (1978) suppositions. For example, Clark's (1971) research in small colleges examines the effects of organizational saga in determining the structures of governance and how they work. He concludes that a saga (the collective understanding of unique accomplishment in a formally established group) adds much meaning to the work of faculty and develops loyalty and belief in the existing system.

In another example of organization culture research in higher education settings, Rhoads and Tierney (1992) assert that when viewing academic institutions as cultures, change must be viewed as a process that seeks to redefine the organizational culture in some way. Since introducing innovation and change thus involves changing values and beliefs, solutions to problems are best developed when administrators closely examine these values and beliefs as well as the traditions and histories of the organization.

Smart and St. John (1996) studied organizational culture using data obtained from trustees, administrators and department chairpersons as part of a national study of the organizational effectiveness of four-year colleges and universities (Krakower & Niwa, 1985). They found that culture type has a decidedly stronger independent effect on institutional performance than culture strength, though the differences are clearly more pronounced on campuses with strong, rather than weak cultures.

Another reason why the pace of change in higher education institutions is comparatively slow is tied directly to problems associated with assessing effectiveness in higher education.

Though difficulty in defining and measuring effectiveness plagues all organizations (Hall, 1977), colleges and universities claim an even more formidable set of problems than most. Unique problems associated with specifying measurable goals and outcomes (Warner & Havens, 1968), skepticism and defensiveness in the academic community toward institutional effectiveness (Bowen, 1973; Peterson, 1975), an emphasis on efficiency rather than on effectiveness (Lindsay, 1982; Meeth, 1974) and a general questioning of the applicability of the concept of organizational effectiveness for colleges and universities (Cohen & March, 1974; Weick, 1976) are all cited as deterrents to measuring effectiveness in higher education.

Cameron's (1978) empirical study to measure organizational effectiveness in institutions of higher education was an attempt to overcome some of the aforementioned obstacles and identify criteria that could be used to measure effectiveness in institutions with less than 10,000 undergraduates. Nine effectiveness dimensions were identified: student educational satisfaction, student academic development, student career development, student personal development, faculty and administrator employment satisfaction, professional development and quality of the faculty, systems openness and community interaction, ability to acquire resources, and organizational health. Cameron further concluded that organizational effectiveness in higher education institutions is multi-dimensional and that no institution operates effectively on all effectiveness dimensions. Five subsequent studies which utilized these nine scales have confirmed the internal reliability and validity of the dimensions (Cameron & Tschirhart, 1992). More recently, Smart and Hamm (1993) substantiated the psychometric properties of these scales in a national study of two-year colleges.

The study of organizational culture in higher education institutions has been escalated by claims that culture is an integral variable in efforts to improve levels of organizational performance in American corporations (Deal & Kennedy, 1982; Ouchi, 1981; Peters & Waterman, 1982). For instance, both Hossler et al., (1988) and Lawson & Ventriss (1992) recently examined linkages between organizational culture (climate) and organizational effectiveness in higher education settings. Hossler et al., (1988) employed a set of qualitative, meta-analytical techniques to examine the knowledge claims supporting goal-based planning and organizational culture as keys to excellence in educational organizations. His results showed little to support the efficacy of either goal-based behavior (intention) or organizational climate (distinction) as a management strategy. Lawson & Ventriss (1992) utilized case study methodology to examine a university change program. Their findings suggested that systematic and structured programs that include specific organizational goals, performance measures, performance feedback mechanisms, and incentives yield enhancements of targeted organizational performances.

Several other types of studies regarding change in higher education settings appear in the literature. For example, there has been considerable research done in studying the psychological changes of college students (Astin, 1993; Feldman, 1972; Pascarella & Terenzini, 1991). Additionally, several studies have focused on factors affecting the adoption of specific innovations by individual faculty members. For instance, Evans & Leppmann (1968) found that faculty who were in favor of using instructional television on campus were less conservative, had more "positive" attitudes toward teaching and student evaluations and had taught at more universities than faculty who were against instructional television. There

have also been a limited number of studies which have used an organizational level of analysis to study changes in higher education settings (Blau, 1973; Hage & Aiken, 1970; Levine, 1980; Zaltman, Duncan & Holbek, 1973) In a review of this type of research, Dill & Friedman (1979) identify four distinct frameworks that have been used to undergird such studies: planned change, diffusion, conflict and complex organization.

Research on Participation in Decision Making

Organizational literature is replete with research and discussion concerning the process of decision making and the affects attributable to the level of member participation in the process. Typically, organizations can either be categorized as centralized, where the decision-making process resides in the hands of a few individuals, or as decentralized, where control of the decision-making process is found throughout the organization. The level of shared decision making which exists in an organization is thus a reflection of its level of centralization (Baum, 1961; Mintzberg, 1979; Simon, 1976).

Coch and French (1948) conducted an early study on the effects of participation in decision making. In an effort to reduce resistance to change, the researchers experimented with the amount of input three carefully matched groups of employees had to changes in their work environment. The researchers found that production did not improve in the group that had no participation in decision making. On the other hand, in the two groups allowed to have participation in the decision making process, production rose and turnover, absenteeism, and grievances were limited.

Other studies have documented the positive affects of participation in decision making in various organizations. Zander (1961) and Kirkpatrick (1985) confirm Coch and French's

(1948) results that participation in decision making reduces resistance to change. Hage and Aiken (1970) found that the lower the level of centralization in an organization, the higher the rate of change. Relatedly, Seashore and Bowers (1970) found that in a situation of rapid change it is particularly necessary to use procedures of participation at all levels of the organization. The amount of participation in decision making has also been found to correlate to organizational effectiveness (Bavelas & Strauss, 1961), persistence (Staw, 1982), and employee commitment (Heilman & Hornstein, 1982).

Not all research documents positive results for participation in decision making. In a comparative analyses of participation studies designed to determine the generalizability of research results obtained in the laboratory with those obtained in the field, Schweiger & Leana (1986) found there to be no clear trend concerning the superiority or inferiority of participation in decision making. A lack of consistency in the way that researchers have defined participation in decision making is cited as a primary reason for this finding. They also cite the existence of a large number of factors thought to moderate participation in decision making and commonly investigated outcomes. For example, leadership skills, subordinate knowledge, and situational factors are all moderating factors suggested in the participation decision making literature (Shaw & Blum, 1966; Vroom & Yetton, 1973).

Although an abundance of school literature concerns participation in decision making (e.g., Corwin & Borman, 1988; Ellett & Logan, 1990; Johnson, 1991; McNeil, 1986; Taylor & Bogotch, 1994), studies of participation in decision making in higher education are less evident. A lack of clarity in the decision-making structure of colleges and universities and the

autonomous nature of being a faculty member seems to account for this discrepancy (Balderston, 1995; Lindquist, 1978).

Recent findings in the school literature concerning the concept of decision-making deprivation provide an opportunity to negate the problems that seem to limit participation in decision-making studies in higher education. Bypassing the organizational structure involved in the decision-making process, these studies focus on discrepancies between desired and actual levels of teacher participation in decision making. For example, Johnson & Ellett (1995) suggest that organizationally effective schools may be those in which discrepancies between desired and actual levels of teacher participation in decision making are in harmony. In another study, Taylor & Bogotch (1994) demonstrated positive, but only rather moderately strong correlations between teachers' actual levels of participation in decision making and dimensions of general work satisfaction.

Both the Johnson & Ellett (1995) and the Taylor & Bogotch (1994) studies utilized Bacharach's (1990) modified version of the Alutto-Belasco School Decisional Participation Scale (SDPS), (Alutto & Belasco, 1973, 1972; Bacharach et al., 1990; Conway, 1976; Mohrman, Cooke & Mohrman, 1978). SDPS items ask teachers to indicate their actual and desired participation in activities designed to make decisions about factors such as the school to which assigned, testing and grading policies, etc. Additionally, this measure's format addresses the possibility that individuals don't always want to be included in the decision-making process and/or that one may be more involved in the decision-making process than desired. Johnson & Ellett (1995) computed the distribution of decision-making power (centralization/decentralization) index in their study by subtracting SDPS actual levels from

desired levels of participation in decisions which is different than the actual reported levels of participation used in other recent studies of decision making using the SDPS (e.g., Taylor & Bogotch, 1994).

Research on Personal and Organizational Efficacy

Human efficacy has, over time, been a variable linked to the change process. For example, Bradford (1961) implies that individual efficacy is important for overcoming resistance to change. For most of the past two decades, however, the primary conceptualizations of efficacy are associated with the works of Bandura (1977; 1982; 1986; 1993). An important self-perception construct that mediates linkages between cognition and behavior, self efficacy is defined as "one's judgment of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p.122).

Bandura's (1977) theoretical framework differentiates between efficacy expectations and outcome expectations. Outcome expectancy is defined as an individual's estimate that a given behavior will lead to certain outcomes, while efficacy expectation is described as the belief that one can successfully execute a behavior required to produce he outcomes. In other words, efficacy expectations depict the amount of effort an individual will put forth as well as how long one will sustain the effort in the face of obstacles and unpleasant experiences.

This distinction, that Bandura (1977) makes between efficacy expectations and outcome expectations, has generated a measure of controversy as some researchers (e.g., Eastman & Marzillier, 1984; Kazdin, 1978) have indicated that the difference between the two constructs is ambiguous and suggest that they are inextricably intertwined (Pajares, in press-b). Other research, however, lends support to Bandura's differentiation between the roles of efficacy

and outcome expectations. For example, Meece, Wigfield, and Eccles (1990), described ability perceptions and performance expectancies as two types of self-efficacy in an investigation of the relationship among math ability perceptions, performance expectancies, perceived importance, anxiety, and math performance in junior high school students.

The lack of clarity in conceptualizing the self-efficacy construct is further compounded by the proliferation of other expectancy constructs, many of which are defined in nearly identical ways. Among the many expectancy constructs to be found in the literature are: self-concept of ability, expectancy beliefs, expectancy for success, perceptions of task difficulty, perceived ability, and confidence (Pajares, in press-b).

Self-efficacy research has also been hampered by the use of various measures to assess the construct. Some researchers (e.g., Locke & Latham, 1990) have chosen to measure self-efficacy in relation to a range of performance levels, not in relation to a single goal or performance level. This identification of self-efficacy as a global measure, treating self-efficacy beliefs as a generalized personality trait, has been criticized for failing to recognize judgements of self-efficacy as being task- and domain-specific (Pajares, in press-b). Bandura (1986) also advises that if the purpose of the research is to achieve explanatory and predictive power, self-efficacy measures should assess the same skills called for in the performance task with which it is to be compared. When this occurs, an increase in prediction results (Pajares & Miller, 1995). When self-efficacy assessments lack the specificity of measurement and consistency with the criterial task, results minimize the influence of self-efficacy (Pajares, in press-a; Pajares, in press-b; Pajares & Millier, 1995).

In addition to identifying generality as a dimension of efficacy, Bandura (1977) also refers to efficacy dimensions of magnitude and strength. Given one's self-perception of competency, magnitude refers to perceived difficulty of tasks. Strength is the perceived amount of effort, relative to perceived competence and motivation, needed to accomplish tasks (Loup, 1994).

Studies have found self-efficacy to be related positively to performance (Locke, Motowidlo & Bobko, 1986). Researchers have also confirmed a three-way relationship between goals, self-efficacy and performance (Bandura & Cervone, 1986; Taylor, Locke, Lee & Gist, 1984). It has been determined that both assigned goals and self-efficacy affect performance in two different ways: assigned goals affect self-efficacy and personal goals, while self-efficacy affects personal goals and performance. The combined effect of self-efficacy and goals on performance indicates that performance is affected both by what one is trying to accomplish and one's confidence in being able to do so (Locke & Latham, 1990).

The applicability of the self-efficacy construct for use in studies of change processes seems to be particularly relevant. Not only does it convey a comprehensive explanation of the complexities of human behavior, but specifically addresses issues pertinent to innovation, receptivity and resistance and organizational effectiveness. For instance, Fuller, Wood, Rapoport & Dornbusch (1982) found an increase in the number of program implementation and evaluation studies that identify efficacy as a significant determinant of resistance to, or persistence of, organizational interventions. Bandura and Cervone (1983) link high efficacy beliefs to enhanced motivation, Latham and Locke (1986) found high efficacy to promote higher goal setting behavior and Lawson and Ventriss (1992) suggest that strong

organizational cultures that promote change may increase one's level of perceived self-efficacy.

Studies employing the self-efficacy construct in higher education settings have typically focused upon student persistence and achievement, college major and career choice, and attitudes of individual's toward technological innovation. For example, in one persistence-related study, Peterson (1993) surveyed academically under-prepared college students to demonstrate how differences on career decision-making, self-efficacy, social and academic integration and academic persistence differ according to individual and family characteristics. In a study of student achievement, Pajares and Miller (1994) used path analysis to test the predictive and mediational roles of self-efficacy beliefs in mathematics problem solving for 350 undergraduates in a study of student achievement. In addition, instruments to measure the attitudes of undergraduate and graduate students toward computer technologies and self-efficacy for computer technologies have been developed by Delcourt and Kinzie (1993).

A collective dimension of efficacy has recently been added by Bandura (1993) to his own research on efficacy by using the school as the unit of analysis. By aggregating teachers' beliefs in their efficacy to promote learning in their own classroom at the school level and/or by aggregating teachers' beliefs in their schools' capability as a whole to promote learning, one determines collective efficacy as it relates to organizational performance. Loup (1994) has extended the understanding of the efficacy construct as an organizational level variable with the development of the Teacher Self and Organizational Assessment (TSOEA) instrument. She found the efficacy construct in schools to be multi-dimensional and more complex than previously described, empirically verifying the construct at the individual

teacher ("Me") level, the teacher organizational ("Thee") level and a"We" level when the "Me" and"Thee" are merged in view of teacher responses to repeated failures to accomplish school goals. Loup and Ellett (1993) developed and validated the TSOEA for use in public schools, while Ellett (1995) has recently developed an adapted version of the instrument for use with large samples of child welfare workers.

Research on Receptivity and Resistance to Change

Interchangeable use of the terms receptivity and resistance to change has led to a number of conceptual and empirical ambiguities in the literature (Giacquinta, 1975b). Both terms have been used to describe how an individual feels internally about a proposed innovation as well as how one acts in response to the innovation being considered. In many instances this has led to the assumption that there is a one-to-one correspondence between an individual's thoughts and actions which may not necessarily be so. Nonetheless, both concepts have been inextricably linked in the change literature, and both have been identified as mediators in the change process.

Several loosely defined theories of receptivity appear in the literature. One linked with the concept of risk and uncertainty (Knight, 1921; Cashdan, 1990) suggests that members of an organization respond to specific innovations in accordance to their perception as to whether or not the innovation will enhance or detract from one's current status in the organization. This sociological theory was the basis for Giacquinta's (1975a) study of status, risk and receptivity in conjunction with the responses of four groups of educators to the proposed introduction of sex education in elementary school.

A second theory is psychologically based and suggests that an organizational member's receptivity to change is a function of personality variables. For example, Miles (1964) listed both positive and negative personality characteristics of innovators which included: strength, benevolence, intelligence, verbal ability and creativity as well as rebelliousness, alienation, excessive idealism and emotional instability. Evans and Leppmann (1968), too, identified "innovator characteristics"of pro-innovation and anti-instructional television faculty in their study of attitudes toward instructional television. Based on an analysis of diffusion research, Rogers (1983) identified five "adopter categories"on the basis of"innovativeness" or the degree to which an individual or other unit is relatively earlier in adopting new ideas than other members of a system. He identified the dominant attributes of each category as follows: innovator - venturesome; early adopters - respectable; early majority - deliberate; late majority - skeptical; and laggards - traditional.

Attempts to measure receptivity have been sporadic. Trumbo (1961) developed a nine-item Change Scale to assess employee attitudes toward change which produced tentative support for the view that readiness for change is related to employee needs for variety, status and self-expression at work. In one of the few higher education studies to measure receptivity, Kaslow and Giacquinta (1974) used a questionnaire that was composed, in part, of seven semantic differentials measuring different innovations. The instrument was developed to determine the extent to which status characteristics or personality factors accounted for variance in faculty receptivity scores.

Hennigar (1979) developed the original version of the Receptivity to Change Inventory (RCI) to assess attitudes of middle management school administrators. Crisafulli (1982)

extended the use of the RCI to measure teacher receptivity to change and this instrument was in turn slightly modified by Chauvin (1992). Chauvin's study found evidence that receptivity is a two-dimensional construct reflecting differences in perceptions toward cultural/normative and superficial/behavioral change. Loup (1994) adapted Chauvin's measurements of receptivity in an exploration of linkages between teacher receptivity to change, teacher self and organizational efficacies and multiple indices of school effectiveness.

Clarke, Ellett and Rugutt (1995) recently developed the Inventory of Receptivity to Change in Higher Education (IRCHE) . This instrument was designed to measure higher education faculty members' self assessments of receptivity to both cultural/normative and superficial/behavioral change.

Resistant behavior is that which is intended to protect an individual from the effects of real or imagined change (Zander, 1961) and can originate from any number of sources (Zaltman, Duncan & Holbek, 1973). Although some exceptions can be noted (e.g., Gross, Giacquinta, & Bernstein, 1971; Spicer, 1952), in early change literature resistance was often viewed as an inevitable consequence of the change process (LaPiere, 1965; Meadows, 1963; Morison, 1961). Additionally, hundreds of personal as well as structural factors have both been identified as contributing to resistant behavior (Glaser, Abelson & Garrison, 1983; O'Toole, 1995; Watson, 1969; Zaltman, Duncan & Holbek, 1973).

Resistance to change is a phenomena commonly associated with institutions of higher education (Lindquist, 1978; O'Toole, 1995; Sarason, 1982), yet attempts to measure it are uncommon. Giacquinta (1973) reports that reliable scales for measuring resistance are practically non-existent. Lewin (1947) explains, in part, the difficulty in measuring the

construct by noting that the mere constancy of group conduct does not prove stability in the sense of resistance to change, nor does much change prove little resistance. He asserts that only by relating actual degrees of constancy to the strength of forces toward or away from the present state of affairs can one speak of degrees of resistance.

Chapter Summary

Chapter 2 presented a review of the literature and research pertinent to the variables depicted in A New Change Model: Linking Innovation to Organizational Effectiveness. Perspectives in the literatures on organizational change, organizational effectiveness, change research in higher education settings, participation in decision making, personal and organizational efficacy, receptivity to change and resistance to change were provided.

Chapter 3 describes the research methodology and procedures employed in the study.

CHAPTER 3: METHODOLOGY AND PROCEDURES

This chapter describes the methodology of the study. It includes a description of the research design, target population, instrumentation, data collection and processing methods, and data analysis procedures.

Research Design

A post hoc correlation research design was used as a framework for data collection and analysis in the study. Thus, relationships among the variables were explored (rather than manipulated) in an attempt to develop a structural model for examining linkages among variables in the study. In the initial framework, receptivity and resistance to change were conceptualized as independent variables and faculty and academic unit head perspectives of organizational effectiveness were conceptualized as dependent variables. Efficacy and decision-making deprivation were considered faculty, personal characteristic variables thought to mediate receptivity and resistance to change and organizational effectiveness.

Target Population for the Study

The target population for the study was all faculty from five traditional academic units at all 59 Carnegie Public Research Universities I in the United States. Psychology, Sociology, Political Science and two academic units within each College of Education were selected for inclusion in the study. These particular academic disciplines were selected for the study because faculty within these units are typically more experienced in survey research methodologies than are faculty from other academic disciplines (e.g., biology, physics, English, etc.). It was believed that this sampling design would enhance the overall survey return rate. Since Colleges of Education are somewhat more variable in their academic unit

structure across institutions than Colleges of Arts and Sciences that typically house the other three unit types, the two academic units thought to be most closely associated with teacher education and education administration were utilized.

Of the 59 Public Research Universities I identified by the Carnegie Foundation (1994), some operate without one or more of the academic units identified for inclusion in the study. For example, the Georgia Institute of Technology maintains a Department of Psychology but no Department of Sociology, Department of Political Science or College of Education. In all, a total of 266 academic units were identified as being part of the target population. From this target population, 108 academic units with a total of 2671 faculty members representing a total of 55 Public Research Universities I agreed to voluntarily participate in the study. A complete list of the Public Research Universities I in the target population, those institutions from which academic units participated, and the actual number of participants from each academic unit can be found in Appendix A.

Instrumentation/Measures

A faculty questionnaire consisting of five instruments was used for data collection. The five instruments included in the questionnaire were as follows: 1) a modified version of the Inventory of Receptivity to Change in Higher Education (IRCHE) (Clarke, Ellett & Rugutt, 1995); 2) the Faculty Resistance to Change Inventory (FRCI) developed specifically for this study; 3) the Faculty Self and Organizational Efficacy Assessment (FSOEA) adapted from previous measures developed by Loup and Ellett (1993) for use with public school teachers; 4) the Faculty Decision-Making Deprivation Scale (FDDS) as modified from the School Decisional Participation Scale (SDPS) (Alutto & Belasco, 1973), and 5) a slightly modified

version of the Index of Perceived Organizational Effectiveness (IPOE) (Miskel et al., 1979; Mott, 1972). In addition, the Higher Education Index of Departmental Effectiveness (HEIDE) was specifically developed for use by Academic Unit Heads. A copy of each of the data collection instruments is included in Appendix B. Discussion of the historical development, structure and psychometric properties of each of these instruments is included in the sections that follow.

Modified Inventory of Receptivity to Change in Higher Education (IRCHE)

Consistent with the conceptualizations presented in Chapter 1, faculty receptivity to change was operationalized in terms of faculty members' self-perceptions of their receptivity to a variety of policy proposals depicting planned organizational change.

Validity

The original Inventory of Receptivity to Change in Higher Education (IRCHE) (Clarke, Ellett & Rugutt, 1995) was designed to measure college and university faculty receptivity to cultural/normative and superficial/behavioral change. This 71-item instrument was a modification of the Receptivity to Change Inventory (RCI) which was used and developed by Hennigar (1979) to assess attitudes of middle management administrators (e.g., school principals and assistant principals) . Crisafulli (1982) revised the RCI slightly in order to measure teachers' receptivity to change. Chauvin (1992) and Loup (1994) further modified the RCI for use with public school teachers. All four studies reported results that support measurement reliability and validity of the RCI and identified significant relationships between receptivity to change and personal (Hennigar, 1979; Chauvin, 1992; Loup, 1994) and organizational variables (Crisafulli, 1982).

Factor analytic results reported in Chauvin's (1992) study lend support for a two-dimensional construct of receptivity to change. Subsequent use of a modified version of Chauvin's instrument by Loup (1994) provided confirmatory evidence that teacher receptivity to change in schools, as measured by the RCI, is a two-dimensional construct consisting of elements of superficial/behavioral change (SBC) and cultural normative change (CNC).

As with the Chauvin (1992) and Loup (1994) studies which utilized large samples of public school teachers, the factor analysis results for the IRCHE reported by Clarke, Ellett and Rugutt (1995) provided considerable support for the dual nature of the receptivity to change construct. Using a random sample of 502 faculty drawn from SREB I, II, III, and V institutions in a southeastern state, extensive exploratory factor analyses yielded two salient, reliable dimensions and 19 items operationalizing the CNC and SBC dimensions.

Upon further review of the findings generated by the development of the IRCHE, it was determined that a modification of the instrument was needed to assure that the 19 items truly reflected CNC and SBC dimensions and were not merely a result of similarly worded items (e.g., those that reflected innovations that "required" adherence and those that gave "sole responsibility/authority"to faculty). As a result, the modified 20-item IRCHE utilized in this study includes 6 of the original IRCHE subscale items, 11 original IRCHE items that did not load on either the SBC or CNC subscales but that displayed considerable response variability and 3 additional items as well.

Structure/Scoring

Each item on the modified version of the IRCHE is a suggestion of a change in university policy, rules, conditions, etc. Respondents make judgements about each IRCHE item using

a four-point Likert scale ranging from 1 = I definitely would not support the proposed policy. (I am very much opposed to the idea); to 4 = I definitely would support the suggestion. (It is obviously a good idea and should be done). Thus, the range in possible scores for receptivity to change was from 20 to 80. The modified 20-item version of the IRCHE used in this study is included in Appendix B.

Reliability

Hennigar (1979) reported a .91 internal consistency reliability coefficient for the RCI using school administrators as the units of analysis. Crisafulli (1982) reported a Cronbach Alpha coefficient for the RCI of .92 using teachers as the units of analysis. Chauvin (1992) reported Cronbach Alpha coefficients of .90 for the total RCI and .86 and .81 for the RCI subscales of SBC and CNC using teachers as the units of analysis. Loup (1994) reported somewhat lower Cronbach Alpha coefficients of .79 and .65 for the SBC and CNC subscales.

Clarke, Ellett and Rugutt (1995) reported an internal consistency reliability coefficient of .82 on the SBC subscale and a .84 coefficient on the CNC subscale using individual faculty as the units of analysis. Reliability characteristics of the modified 20-item version of the IRCHE used in this study were also examined as described in the data analyses below.

Faculty Resistance to Change Inventory (FRCI)

Faculty resistance to change was operationalized using the Faculty Resistance to Change Inventory (FRCI) which was developed specifically for this study. This self-report instrument was designed to measure the degree to which a faculty member will oppose the implementation of a policy once adoption of the policy becomes highly likely. The conceptualization of resistance to change, as presented in Chapter 1, clearly differentiates this

variable from receptivity to change. Unlike receptivity to change (a belief state or trait that has strong cognitive and affective components and includes an individual's readiness or *internal orientation* toward planned organizational change), resistance to change describes one's *external orientation* toward planned organizational change. It is the action(s), both overt and covert, that one embraces to stop, delay or otherwise undermine the proposed innovation or actual implementation of it. Overt actions include obvious, directly observable events such as letter writing or a placard demonstration. Covert actions include more subtle, and perhaps individually concealed events such as staying to ones' self or having informal conversations with colleagues.

An individual's response to innovation or change is likely to be innovation specific. That is, one's response is apt to vary depending upon a number of factors including the type, timing, magnitude, perceived cost or effects of the particular innovation on the individual. In order to develop a scale that would accurately reflect a range of possible responses to planned organizational change, input from all faculty members in the political science, psychology, sociology, educational curriculum and instruction, and educational administrative foundation departments at a single Research University I institution in the southeast was elicited. Using a self-report instrument, 99 faculty members were asked to rank order eight forms of resistance in response to the question, "When you think about possible changes or innovations that might affect you as a faculty member, whatever they might be, which of the following forms of resistance to change do you see as the weakest? strongest?" A copy of this resistance scale data collection instrument is provided in Appendix B.

A total of 46 completed instruments were returned. For the purposes of scoring and statistical analyses, values assigned to each of the eight "forms of resistance" ranged from 1-8 with 1 assigned to the weakest form and 8 assigned to the strongest. Total item scores could therefore range from 46 to 368 for the total (n=46) number of returned instruments. The weakest form of resistance (with an item score of 50) was: *Stay to oneself. Don't attend meetings at which the innovation/change is to be discussed.* The strongest form of resistance identified by the faculty respondents (with an item score of 301) was: *Either singularly or with one or more colleagues, initiate a public display/protest against the innovation/change (i.e., letter to the editor, placard demonstration, etc.).* Two additional items were selected as points on the scale. *Initiate informal conversations with colleagues and speak against the innovation/change* (item score = 175), and *write a formal memo/letter of concern to the authority responsible for initiating the change (i.e. department chair, dean provost) which opposes the innovation/change* (item score = 261).

By adding the option *I would not resist the policy in any way*, the resultant 5-item resistance scale was designed to measure the degree of resistance (from no resistance to strong resistance) that faculty members would take in response to the *highly likely* implementation of policies proposed in the 20-item IRCHE.

Validity

Validity characteristics of the FRCI were empirically examined using first, a series of factor analysis procedures to explore/define the FRCI subscale constructs and secondly, by examining the criterion-related validity of the FRCI using a series of bivariate and multivariate

correlational analyses between the FRCI subscales and the indices of organizational effectiveness used in this study.

Content validity was established during the instrument development process through reviews of literature related to resistance and organizational change and through repeated and final reviews by a small number of selected university faculty and administrators.

Structure/Scoring

The FRCI contained 20 items; the same proposed policies used in the IRCHE. Each item is a suggestion of a change in university policy, rules, conditions, etc. Respondents made judgements about each FRCI item using a five-point Likert scale ranging from 1 *(I would not resist the policy in any way)* to 5 *(I would either singularly or with one or more colleagues, initiate a public display/protest against the idea [inform local news media, placard demonstration, etc.])*. Thus, resistance to change scores could range from 20 to 100 with the higher scores representing greater degrees of faculty resistance to change. A copy of the FRCI used in this study is included in Appendix B.

Reliability

Cronbach Alpha internal consistency reliability coefficients were computed for each of the FRCI subscales identified through factor analyses of the faculty data collected in this study as described in the data analyses below.

Faculty Decision Deprivation Scale (FDDS)

The instrument used to measure the difference between desired and actual levels of decision making was the Faculty Decision-Making Deprivation Scale (FDDS), a modified version of the School Decisional Participation Scale (SDPS) originally developed by Alutto

& Belasco, (1973), further modified by Bacharach (1990), and more recently modified by Johnson (1991). Faculty decision-making deprivation was operationalized, consistent with the conceptualizations in Chapter 1, as the difference between the desired and actual level of university decision-making power a faculty member possesses. The greater the difference between desired and actual levels of decision making, the greater one's level of deprivation.

Validity

The original version of the SDPS was developed by Alutto and Belasco as a means of determining whether a given school teacher was decisionally deprived, saturated or satisfied. Twelve typical decisions made in the school organization were identified and respondents were asked to indicate for each decision whether they actually participated in the decision and whether they desired to participate in that same decision. In a study of 454 teachers, the instrument successfully differentiated teachers in each of the three categories (deprived, saturated, satisfied).

Conway (1976) reconfirmed the content and criterion-related validity of the SDPS by seeking input from principals and assistant principals. In addition, Conway revised the instrument's response format from a simple yes-no option to one that allowed respondents to indicate the degree of actual or desired participation for a particular decision. The scale used ranged from 1 *(never)* to 4 *(always)*. Conway found, like Alutto and Belasco (1973), that the SDPS differentiated among teachers regarding decisional deprivation, saturation and satisfaction. Decisionally deprived and saturated teachers were found to be less satisfied with their school than those teachers who were decisionally satisfied.

Refinement of the SDPS, as well as confirmation of validity, was continued by Mohrman et al. (1978). Factor analyses of SDPS data for 460 teachers identified two salient factors; managerial decisions and school technical decisions. The results of the Mohrman et al. (1978) study showed that work satisfaction and role ambiguity were significantly correlated with participation in technical decisions but not with participation in managerial decisions.

Further work utilizing the multi-dimensional approach to participatory decision making was conducted by Bacharach et al. (1990). After slightly rewording some of the items on the SDPS, data were collected from 1,531 teachers. Subsequent factor analyses identified four factors which accounted for some 60% of the total item variance: 1) Managerial-Organizational; 2) Managerial-Personal; 3) Technical-Organizational; and 4) Technical-Personal. Johnson (1991) also identified four factors (Technical-Organizational, Technical-Personal, Managerial-Organizational and Managerial-Personal) comprising the SDPS in a study of 1,379 teachers.

More recently, Taylor and Bogotch (1994) collected SDPS data from 637 teachers in a school district with an assertive program to increase teachers' participation in decision making. They found that despite an increase in the rate of participation experienced, teachers reported feeling decisionally deprived on all 19 SDPS items. Factor analyses in the Taylor & Bogotch (1994) study identified four factors which accounted for 57% of the total item variance: 1) Associated Technology, 2) Managerial, 3) Instructional Materials, and 4) Core Technology.

Structure/Scoring

The Faculty Decision Making Deprivation Scale (FDDS) used in this study consisted of 15 items representing decisions typically made concerning various aspects of teaching, research and service at universities. Using a four-point Likert scale, respondents were asked to first indicate their level of *actual participation* in the decision-making process and then to indicate their level of *desired participation* for each item. The scale ranged from 1 *(Never)* to 4 *(Always)*. Subsequently, two initial scores were calculated: 1) an *actual* participation score; and 2) a *desired* participation score. Possible scores for both the actual and desired participation range from 15 to 60. A third calculation was used to determine levels of *decision deprivation*. This index was calculated by subtracting the actual from the desired level of decisional participation. Thus, possible scores on the Faculty Decision Deprivation Index (FDDI) could range from -45 to 45. The 15-item FDDS used in this study is included in Appendix B.

Reliability

Cronbach Alpha values for the two factors (managerial decisions and school technical decisions) measured by the 12-item SDPS used by Mohrman et al. (1978) are reported at .75 and .83 respectively. As previously stated, factor analyses of the revised, 19-item SDPS instrument used by Bacharach et al. (1990) identified four factors. Cronbach Alpha reliability coefficients for each of these scales are reported by Bacharach as ranging from .66 to .83. Johnson (1991) also identified four factors (Technical-Organizational, Technical-Personal, Managerial-Organizational and Managerial-Personal) using a 19-item SDPS instrument. Standardized Cronbach Alpha reliability coefficients for these scales ranged from .79 to .89.

Taylor and Bogotch (1994) reported SDPS instrument subscale alpha coefficients ranging from .66 to .89.

Faculty Self and Organizational Efficacy Assessment (FSOEA)

Faculty self and organizational efficacy was operationalized by using the two-part, self-report, Faculty Self and Organizational Efficacy Assessment (FSEOA). Part I was used to assess faculty beliefs about energy and persistence to accomplish goals, respond to obstacles/barriers, and to persist in the face of repeated failure. Part II was used to assess faculty beliefs about effecting organizational outcomes related to teaching (student learning), research (scholarship) and service.

The FSOEA was developed specifically for this study based upon the prior work of Loup (1994) and Ellett (1995). Together, Loup and Ellett (1993) developed and validated the Teacher Self and Organizational Efficacy Assessment for use with public school teachers. The instrument requires teachers to make judgements of their own abilities to organize and execute courses of action required to accomplish goals. The TSOEA additionally requests teachers to make the same judgements about their colleague's collective capabilities to execute similar actions, thus establishing an index of teachers' views of organizational efficacy (Loup, 1994).

The TSOEA reflects three essential concepts of efficacy motivation derived from the theoretical framework for self-efficacy as initially described by Bandura (1977). Related to goal accomplishment, these three key concepts include elements of personal motivation such as; 1) level of energy expended to accomplish goals, 2) amount of persistence put forth to pursue goals in spite of uncertainty; and 3) the extent to which failure to accomplish goals

results in an increase or decrease in subsequent efforts made to accomplish future goals (Loup, 1994).

Part I of the Faculty Self and Organizational Efficacy Assessment (FSOEA) used in this study is a modification of the original TSOEA, with two essential differences. First, part I the FSEOA addresses three goal statements that faculty members usually attempt to accomplish in their roles as higher education professionals related to teaching, research and service as compared to four goal statements included in the original TSOEA developed for use with elementary and secondary teachers. Secondly, the format of the instrument was reorganized. The original TSOEA (Loup, 1994) listed the four goals under each of three key questions (relating to energy/effort, persistence/perseverance and failure) and asked respondents to rank separately their own effort/persistence as well as their perception of the effort/persistence of other teachers in their school. Part I of the FSOEA, on the other hand, was designed so that the key questions were listed under each of the three goals while still seeking the respondent's ranking of their own, and their fellow faculty members', effort and persistence.

Part II of the FSOEA was designed to assess faculty beliefs about effecting organizational outcomes related to teaching (student learning), research (scholarship) and service. Adapted from a five-item measure recently developed and piloted by Ellett (1995) for use in social work settings, this instrument is designed to measure efficacy *outcome expectation* (as opposed to *efficacy expectation*) as delineated in Bandura's (1977) theoretical conceptions of human efficacy and its role in the determination of human behavior.

In all, four kinds of efficacy data were collected by using the FSOEA Parts I and II: 1) individual faculty member efficacy expectation; 2) organizational (collective faculty) efficacy

expectation; 3) individual faculty member outcome expectation; and 4) organizational outcome expectation.

Validity

Content validity of the TSOEA was established through reviews of the literature related to efficacy, reviews of instrumentation developed to measure the efficacy construct and through initial probes and repeated and final reviews by a small number of selected teachers, administrators and college faculty (Loup, 1994). Likewise, the content validity of both parts of the FSOEA was established through similar literature and instrument reviews as well as a review of instrument items by a small group of faculty and higher education administrators. The faculty and administrator review of Part I focused on the relevance and applicability of goal statements to individual faculty and university organizational goals. Drafts of both parts of the instrument were reviewed for clarity of item wording and response format.

Construct validity characteristics of both parts of the FSOEA were empirically examined in two ways. First, a series of factor analysis procedures was used to explore and define the FSOEA subscale constructs. Secondly, criterion-related validity of the FSOEA was examined by conducting a series of bivariate and multivariate correlational analyses between FSOEA subscales and the organizational effectiveness indices used in this study.

Structure/Scoring

Part I of the FSOEA was completed by respondents while considering each of three key questions. Each key question is reflective of Bandura's (1977) motivational concepts and respondents answer in relation to 1) perceived personal efforts, and 2) collective efforts of other faculty toward accomplishment of three types of goals: 1) enhancement of the quality

of teaching and student learning; 2) the quality of research and scholarly productivity; and 3) the quality of service to the university, community, and profession.

For each of three key questions (1. *How much energy/effort is put forth in your department to accomplish this goal?* 2. *When there are difficult or uncertain obstacles to overcome in accomplishing this goal, how much persistence/perseverance is put forth to accomplish this goal?;* and, 3. *To what extent would failure to accomplish this goal result in increased efforts to accomplish this goal in the future?*) faculty were asked to make two decisions: 1) how they would personally respond in trying to accomplish a particular goal and 2) how most other faculty in their department would respond in trying to accomplish a particular goal.

The five-point Likert response scale for Part I of the FSOEA varies from: 1 (*Little or No [Effort, Persistence, Increased Effort]*) to 5 (*Lots of [Effort, Persistence, Increased Effort]*) for each different key question as it relates to each of the three organizational goals. For Part I of the FSOEA, a total of 18 instrument judgements were made. Total possible scores ranged from 18 to 90. High scores on the instrument reflect higher self and/or organizational efficacies than low scores. A copy of Part I of the FSOEA is included in Appendix B.

Faculty were asked in Part II of the FSOEA to reflect on what they believe are the major goals of their department with regard to each of three areas: teaching, research and service. Respondents were then asked to assess the professional knowledge and skills that they possess, as well as the amount of personal responsibility and the degree of success that they have in accomplishing their department's goals in each of the three areas. In addition, ratings

are made on these items for perceptions of *other* faculty member's in a particular academic unit.

A four-point Likert scale is provided for each of the questions. Rating of professional knowledge and skills ranges from 1 *(Typically Inadequate)* to 4 *(Highly Adequate)*; rating of responsibility to accomplish the department's goals ranges from *1(No Responsibility)* to 4 *(a Large Amount of Responsibility)*; and rating of success in accomplishing academic unit goals ranges from 1 *(No Success)* to 4 *(a High Degree of Success)*. A total of 18 instrument judgements were made on Part II of the FSOEA, with total scores ranging from 18 to 72.

Reliability

Loup (1994) reported the following Cronbach Alpha internal consistency reliability coefficients for the three TSOEA subscales: Teacher Perceptions of Self Efficacy (TPSE) (.89); Teacher Perceptions of Organizational Efficacy (TPOE) (.92); and Collective Perceptions of Efficacy (CPE)(.95). Ellett (1995), in an adaptation of the TSOEA for use with 830 child welfare professionals reported alpha reliabilities for three TSOEA factored subscales rom .78 to .89

Organizational Effectiveness

Organizational effectiveness is a broad based construct that has been defined in many ways. For instance, the ability of an organization to attain goals and/or to acquire resources is often correlated with the organization's level of effectiveness (Hoy & Miskel, 1991). Others conclude that the concept of effectiveness is multidimensional (Cameron, 1978), involving not only productivity, but the organization's ability to adapt to internal and external conditions as well as to cope with unpredictable emergencies (Mott, 1972). In this study, organizational

effectiveness was defined as the extent to which faculty members are able to establish and accomplish institutional goals in a manner that is efficient, adaptable and flexible to the needs of the organization and that insures a high quantity and quality of organizational product.

Two measures were used to operationalize organizational (academic unit) effectiveness in this study. Faculty respondents completed a modified version of the Index of Perceived Organizational Effectiveness (IPOE)(Miskel et al., 1979). Academic unit heads completed the Higher Education Index of Departmental Effectiveness (HEIDE) specifically developed for this study. Both measures are derived from Parson's (1960) conceptual framework that stipulates that four basic organizational functions are essential for a social system to grow and develop: adaptation, goal attainment, integration and latency.

Modified Index of Perceived Organizational Effectiveness (IPOE)

The Index of Perceived Organizational Effectiveness (IPOE) (Miskel et al., 1979), is a widely-used, outcomes measure of organizational effectiveness designed for use in studies of schools. It is derived from a questionnaire refined by Mott (1972) which was initially developed for use in hospital settings by Georgopoulos and Mann (1962) in an attempt to construct a valid measure of organizational effectiveness. Slight modifications in the wording of the eight IPOE items were made in this study in order to insure the applicability of this instrument for use in higher education academic units.

Validity

Construct validity of Mott's (1972) measure of organizational effectiveness was established in a series of studies conducted during the 1960's. Mott added four items (production quantity; production efficiency; adaptation: anticipation/solving problems; and

adaptation: awareness of potential solutions) to the four effectiveness items included in Georgopoulos and Mann's (1962) study of ten hospitals (production quality; adaptation: promptness of adjustment; adaptation: prevalence of adjustment; and, flexibility) for use in a study of the National Aeronautics and Space Administration. Subsequent studies in an anonymous federal agency (referred to as Alpha Agency), the U.S. State Department, the Financial Management Office of the Department of Health Education and Welfare and a state mental hospital in Pennsylvania used these same eight effectiveness items.

Use of these same IPOE items (modified slightly for use in educational settings) began with Miskel et al.'s, (1979) study of formalization and complexity of school structure. More recently the instrument's construct validity has been confirmed in studies by Hoy and Ferguson (1985), Logan (1990), Johnson (1991) Claudet (1993) and Loup (1994).

Structure/Scoring

The modified IPOE is an 8-item instrument adapted for use in higher education settings. Faculty members are asked to rate the effectiveness of their academic unit along four dimensions: quantity/quality of product (teaching, research and service), efficiency, adaptability and flexibility. Faculty respond to each item by selecting from among five alternatives that range in value from 1 to 5. These options portray an individual's judgment of the degree to which the academic unit attains objectives and accomplishes tasks defining the four key organizational functions described above.

Total instrument scores range from 8 to 40. Lower IPOE scores indicate a perception of less organizational effectiveness in the unit than higher IPOE scores. A copy of the modified IPOE used in this study is included in Appendix B.

Reliability

The internal consistency reliability for the IPOE was reported at .89 by Miskel et al. (1979) and .87 by Hoy and Ferguson (1985). Further documenting the high reliability of the IPOE are the internal consistency coefficients reported by Johnson (1991) (.97), Claudet (1993) (.90) and Loup (1994) (.90).

Higher Education Index of Departmental Effectiveness (HEIDE)

Academic unit head perceptions of departmental organizational effectiveness were operationalized using the Higher Education Index of Departmental Effectiveness (HEIDE) which was developed specifically for this study. Like the IPOE, the HEIDE is derived from Parson's (1960) conceptual framework that contends in order for a social system to grow and develop, four organizational functions are essential: adaptation, goal attainment, integration and latency.

Validity

Content validity of the HEIDE was established during instrument development through reviews of literature related to organizational effectiveness and through repeated and final reviews by a small number of selected faculty and administrators.

Structure/Scoring

The HEIDE is a 15-item instrument. Respondents are asked to rate faculty in their academic unit with regard to the role of research, the role of teaching and the role of service on each of five items reflecting faculty adaptability, flexibility, efficiency, and quantity and quality of production. For each item, respondents select from among four alternatives which indicate a perceived level of attainment for each of the organizational functions. For example,

adaptability is rated from a low of *not very adaptable* to a high of *very adaptable*. Total instrument scores range from 15 to 60. High HEIDE scores indicate greater perceived departmental organizational effectiveness than low HEIDE scores. A copy of the HEIDE is included in Appendix B.

Reliability

Reliability characteristics of the 15-item HEIDE used in this study were examined as described in the data analysis section below.

Data Collection Procedures

Packaging and Distribution Procedures

Academic unit heads who had agreed to participate in this study were mailed a package which included the following: instrument packets for each of the full-time members of their faculty; a set of reminder notices to be distributed approximately ten days following the distribution of the faculty instruments; an academic unit head packet; and, a cover letter summarizing the tasks and time lines requested of them. Copies of the cover letter and reminder notice are included in Appendix B.

The faculty instrument packet contained a cover letter (which explained the study procedures/time lines and emphasized the voluntary/anonymous nature of faculty participation)(See Appendix B); electronically scannable (bubble sheet) data collection forms which included a demographic information section as well as the IRCHE, FRCI, FSOEA, FDDS, and IPOE; and, a preaddressed, business reply envelope. The academic unit head packet included a supplemental information form; a copy of the machine scoreable, data collection packet distributed to the faculty; and, a preaddressed, business reply envelope.

The academic unit head supplemental information form consisted of two parts; Part A requested both personal and departmental demographic information while Part B was the HEIDE. Academic unit heads were asked to complete the machine scoreable, faculty data collection forms with their own, personal demographic information, while answering the IRCHE, FRCI, FSOEA, FDDS and IPOE *from the perspective of how you think faculty in your academic unit will 'typically respond', not how you personally feel about the items.*

Data Collection Time Lines

Packages were mailed to the 108 participating academic unit heads during the first week of February, 1996. Cover letters to both the academic unit heads and to their full-time faculty indicated that completed instrument packets were to be returned in the business reply envelope by March 1, 1996. During the last week of February correspondence was sent to each of the 108 academic unit heads to remind them that "reminder notices" were to be distributed to faculty between February 22-26. These contacts with academic unit heads were made by e-mail (if available) or by hand written postcard and formal letter (depending upon whether or not they had already submitted their academic unit head instrument packet).

These supplemental contacts (as well as the reminder notices) informed the participants that the deadline to submit completed packets had been extended until March 8, 1996. Receipt of completed instruments continued through mid-March and on March 20, 1996 were delivered to the Measurement and Evaluation Center at Louisiana State University to be scanned.

Data Analyses

Upon the completion of data collection procedures and the construction of various data files, a variety of analyses were completed: 1) descriptive statistical analyses of all demographic and instrument items as well as composite variables; 2) factor analyses of four of the six instruments; 3) internal consistency (Cronbach Alpha) reliability analyses of subscales and/or total scores of all instruments; 4) bivariate correlations among all instrument subscales and instrument totals; 5) multiple regression analyses to examine the relative contribution and combination of variables explaining variance in the departmental organizational effectiveness measures; 6) t-test, one-way and multiple-way ANOVAs to make comparisons among various demographic variables for the variables measured; and, 7) structural equations modeling (Bentler, 1993) analyses to explore multiple, direct and indirect linkages and effects among the various variables measured.

Descriptive Statistics

Summary statistics were completed for all dependent and independent variables in addition to pertinent demographic variables. Means, standard deviations, ranges of scores, and means expressed as percentages of the maximum possible scores for each factored subscale of the independent measures were compiled and reported for the total sample and by academic discipline. Individual level descriptive statistics were also computed when deemed appropriate.

Factor Analyses

Data compiled from four of the measures (IRCHE, FRCI, FSOEA, FDDS) used in this study was subjected to a series of factor analysis procedures. The Faculty Resistance to

Change Inventory (FRCI), specifically developed for use in this study, was used to measure the degree to which a faculty member will oppose the implementation of a policy once adoption of the policy becomes highly likely. Empirical examination and verification of the dimensions of this instrument was initiated by exploratory, principal components factor analysis procedures.

The other three instruments for which a series of factor analysis procedures was completed, the Inventory of Receptivity to Change in Higher Education (IRCHE),the Faculty Self and Organizational Effectiveness Assessment (FSOEA), and the Faculty Decision-Making Deprivation Scale (FDDS), were modified versions of instruments utilized in previous studies. The IRCHE had only been utilized in one previous study (Clarke, Ellett & Rugutt, 1995) and had both been scaled in size (reduced from 71 to 20 items) and partially rewritten for use in this study. Due in part to this significant change in design, exploratory, principal components factor analysis procedures were employed. These procedures were also prompted by the suggestions made by previous findings (Chauvin, 1992; Loup, 1994) that a need exists to continue empirical investigations of the construct validity of measures conceptualizing receptivity as a two-dimensional construct (superficial/behavioral change and cultural/normative change).

Likewise, the FSOEA and the FDDS are significantly modified versions of previously developed instruments. Part I of the FSOEA is a modification of the Teacher Self and Organizational Efficacy Assessment (TSOEA) (Loup, 1994) while Part II is a modification of Ellett's (1995) measure of efficacy outcome expectations. The FDDS is a modification of the School Decisional Participation Scale (SDPS) (Alutto & Belasco, 1973). Both instruments

were significantly reworded for use in higher education settings and Part I of the FSOEA also represents a major redesign of the TSOEA's original format. Subsequently, exploratory, principal components factor analysis procedures were used as a means to empirically verify the dimensions of each of these instruments. Before conducting these procedures, data were reviewed to identify missing or duplicate faculty responses. In such instances, item grand means substitution was initiated in order to maximize the number of useable cases.

For each of the four measures (IRCHE, FRCI, FSOEA, FDDI), a series of principal components factor analysis procedures was completed beginning with an unconstrained solution. Next, a series of analyses which iteratively extracted from one to multiple factors was completed. Both oblique and orthogonal rotations (SAS Institute, 1985) were utilized. Using faculty as the units of analysis, factor/factor and item/factor intercorrelations were also completed.

For the uni-dimensional, one-factor solutions, factor loadings were examined using factor structure matrices. Factor loadings for multiple factor, orthogonal solutions were examined by using rotated factor structure matrices, while factor loadings for multiple factor oblique solutions were examined by utilizing factor structure matrices.

Since this study was exploratory in nature, a number of considerations guided the factor analyses conducted for all four measures. For example, reliability concerns prompted the inclusion of appropriate numbers of items for subscales. In one instance this resulted in the need to relax the criterion which was developed to determine the retention of multiple loaded factors being retained on the factor of the highest loading. Likewise, validity concerns were

addressed by reviewing both the face and content validity of items and subscales in relation to the conceptual and theoretical grounding of the constructs being measured.

A set of general decision rules was generated and utilized for all measures in interpreting the results of these factor analyses and in determining which solution represented the best statistical and conceptual interpretation of the data. In order for an item to be retained on a particular factor, it was necessary for certain criteria to be met. First, the magnitude of the item loading on a factor had to be greater than or equal to .33. Second, the item had to primarily load on a single factor. In instances where an item loaded on multiple factors, a difference between the percentages of item/factor variance explained for the two highest loadings had to be at least 20% in order for the item to be retained on the factor of the highest loading.

Reliability Statistics

In order to examine the internal consistency reliability of the IRCHE, the FRCI, the FSOEA, the FDDS, the Index of Perceived Organizational Effectiveness (IPOE) and the Higher Education Index of Departmental Effectiveness (HEIDE), the Cronbach Alpha (1957) reliability procedure was utilized. Used in these analyses were factored subscale scores for the IRCHE, FRCI, FSOEA and FDDI and total instrument scores for the IPOE and the HEIDE. Both faculty (n = 799) and academic unit means (n= 103) were used as the units of analysis in computing Alpha coefficients.

Correlation Analyses

Likewise, both individual faculty and academic unit means were used as the units of analysis in completing a series of bivariate and multivariate correlation analyses examining the

relationships between the various independent (IRCHE, FRCI, FSOEA, FDDS factored subscales) and dependent variables (IPOE and HEIDE). For these analyses, prompted in response to primary and supplemental research questions, both one-factor and multiple factor versions of the various measures were utilized. First, Pearson product moment correlations among the independent variables and the various dependent variables were completed. Second, a series of multiple regression analyses regressing both of the dependent variables (IPOE and HEIDE) on subscales of the independent variable measures (IRCHE, FRCI, FSOEA, FDDI) was completed. Lastly, a series of partial correlational analyses was completed with partial correlation coefficients computed between the one-factor solutions of the IRCHE, FRCI and FDDI while statistically controlling for the effects of the one-factor solutions for both part I & part II of the FSOEA.

One-way and Multiple-way ANOVA's

In order to make comparisons among various demographic variables and to address a variety of supplemental questions that emerged during various phases of data analysis, a variety of statistical comparisons were completed using t-test and ANOVA procedures and Scheffe' post hoc tests. For example, comparisons were made to determine 1) if non-tenured faculty were more or less receptive to cultural/normative change than their tenured counterparts, 2) if female faculty members were more or less resistant to cultural/normative change than were male faculty, and 3) whether or not the length of time a faculty member had been employed at an institution was a factor contributing to differences in perception of self-efficacy, etc. In addition, comparisons among selected groups classified by various

demographic variables were also made at the individual item level. A presentation of the results of these statistical comparisons is presented in the following chapter.

Structural Equation Modeling

Structural equation modeling (SEM), also referred to as covariance structure modeling (Bollen & Long, 1993), is a very general, chiefly linear, comprehensive statistical approach to testing hypotheses about relations among observed and latent (unobserved) variables (i.e. factors or constructs) (Hoyle, 1995). A relatively recent approach to testing research hypotheses, applications of SEM gained frequency in the fields of biometrics and econometrics during the 1970's and more recently have become increasingly utilized in the social and behavioral sciences (Bentler & Weeks, 1980).

In many ways SEM is similar to the standard approaches of data analysis (factor analysis, multiple regression and ANOVA) previously described. All are based on linear statistical models; statistical tests associated with each are valid only if certain assumptions about the observed data are met; *none of the approaches offer statistical tests of causality*; and, adjustments to the initial statistical hypothesis after viewing the data in each case dramatically increases the likelihood of sample-specific results. On the other hand, SEM differs from standard approaches in three important ways: 1) SEM requires formal specification of a model to be estimated and tested; 2) SEM has the capacity to estimate and test relations between latent variables, and 3) on the downside, SEM is renowned for the ambiguity associated with tests of the models as compared to the relatively straightforward tests that accompany standard models (Hoyle, 1995).

After the completion of the standard approaches of data analysis which were exploratory in nature, a diagram of a revised conceptual model was developed. As recommended, this figure presented the full system of relations between the study variables in an integrated manner depicting a merger of theoretical predictions and analyses results (Hoyle & Panter, 1995). Following this *model specification* and *identification* (determining the possibility of assigning unique values for the parameters of the specified model) (Bollen & Long, 1993), EQS software (Bentler, 1993) was employed to assist in the remaining processes of SEM: *estimation*, *evaluation of fit* and *model modification*. The objective of these analyses was to test the viability of the originally proposed linkages among the various independent and dependent variables explored in view of the MCEHE framing the study.

Chapter Summary

A discussion of the research design, instrumentation, data collection and data analyses procedures used to address primary and supplemental research questions has been presented in Chapter 3.

Chapter 4 includes a summary of: descriptive statistics for the survey sample and instrument items, results of factor analyses for each of the study's measures, and reliability analyses. In addition, results of analyses for primary and supplemental research questions initially posed in the study are provided.

CHAPTER 4: SUMMARY OF RESULTS

This chapter describes the results of the study. Results are provided as follows: 1) descriptive statistics for the sample; 2) descriptive statistics for the various independent and dependent variables; 3) factor analyses of the IRCHE, FRCI, FSOEA and FDDS, 4) internal consistency reliability analyses; 5) summary of intercorrelations among instrument subscales; 6) analyses pertinent to major research questions; and 7) supplemental analyses. Much of the analysis presented utilizes the one-factor, uni-dimensional measures of the study variables; receptivity to change (RECEP), resistance to change (RESIST), efficacy motivations (EFFMO), outcomes efficacy (OUTEFF), and decision-making deprivation (DECDEP).

Other analyses incorporated multi-factor subscales of the study's measures. These included: 1) factored subscales of the IRCHE [Receptivity to Superficial/Behavioral Change (RECSBC), Receptivity to Cultural/Normative Change - Academic Focus (RECCNAF), and Receptivity to Cultural/Normative - Procedural Authority (RECCNPA)]; 2) factored subscales of the FRCI [Resistance to Increasing Authority (RESIA), Resistance to Change that is Required (RESCR), Resistance to Superficial/Behavioral Change (RESSBC), and Resistance to Cultural/Normative Change (RESCNC)]; 3) factored subscales of the FSOEA Part I [My Efficacy - Teaching & Service (METS), Other Faculty Efficacy - Research (OFER), and Other Faculty Efficacy - Service (OFES)]; 4) factored subscales of the FSOEA Part II [Other Faculty Outcomes Efficacy - Teaching, Research & Service (OFOETRS), My Outcomes Efficacy - Teaching & Service (MOETS), and My Outcomes Efficacy - Research (MOER)]; and 5) factored subscales of the FDDS [Decision Deprivaton - Organizational Issues (DDORG) and Decision Deprivation - Personal Issues (DDPER). Two measures of

organizational effectiveness were used as dependent variables: the IPOE (completed by faculty respondents) and the HEIDE (completed by academic unit heads).

Summary of Descriptive Statistics for Survey Sample

Academic Unit Sample

The initial sample for this study consisted of all faculty from five traditional academic units at all 59 Carnegie Public Research Universities I in the United States (See Table A.1; Appendix A). Psychology, Sociology, Political Science and two academic units within each College of Education were selected for inclusion in the study. In all, 108 academic unit heads agreed to participate in the study. Useable data were received from 103 academic units. Table 4.1 provides a demographic profile of the total sample of academic units. Psychology departments comprised 27% of the sample, Sociology departments accounted for 25%, Political Science departments made up 15% while academic units in the Colleges of Education represented 33%. Thirty-eight percent of the College of Education academic units (13% of the total sample) were identified as units primarily responsible for awarding degrees related to curriculum and instruction (C&I), 33% (11% of the total sample) were seen as units primarily responsible for granting degrees related to administration and leadership (EDAdmin) while the remaining 29% (10% of the total sample) were identified as *other* (indiscernible, or responsible for multiple types of instruction). For example, Purdue University's Department of Educational Studies was classified in the *other* category.

Academic unit size, as measured by the number of full-time faculty self-reported by the academic unit head, ranged from 8 to 90, with a mean academic unit faculty size of 25.

Table 4.1

Profile of Sample for All Institutions by Academic Unit Type

Characteristics	All[a]	Academic Unit Type P. Sc.	Psy.	Soc.	Ed. C&I	Ed. Adm.	Ed. Other	Ed. (Total)
Responding academic units	103	18	19	26	13	18	9	(40)
Percentage of total sample	100	17	18	25	13	17	9	(39)
Faculty surveyed	2620	438	686	569	462	247	218	(927)
Useable faculty surveys	799	123	214	196	101	87	78	(266)
Percentage of useable faculty surveys	100	15	27	25	13	11	10	(33)
Return rate[b] (pct)	30	28	31	34	22	35	36	(29)
Academic unit heads surveyed	103	18	19	26	13	18	9	(40)
Useable academic unit head surveys	79	16	13	18	8	17	7	(32)
Percentage of useable acad. unit head surveys	100	20	16	23	10	22	9	(41)
Return rate[c] (pct)	77	89	68	69	62	94	78	(80)
M faculty size	25	24	36	22	36	14	24	(23)
Minimum faculty size	8	10	11	11	15	8	10	(8)
Maximum faculty size	90	46	90	34	59	22	35	(59)

(table continues)

a All = All academic units; P. Sc. = Political Science; Psy. = Psychology; Soc. = Sociology; Ed. C&I = College of Education units primarily responsible for awarding degrees related to curriculum and instruction; Ed. Adm.= College of Education units primarily responsible for granting degrees related to administration and leadership; Ed. Other = College of Education units with indiscernible or multiple instructional responsibilities

[b] Percentage of the total number of useable faculty surveys

[c] Percentage of the total number of useable academic unit head surveys

Psychology and Education C&I units had larger numbers of full time faculty than other units (mean=36), whereas Education Administration units were much smaller in size (mean=14).

Response rates from faculty remained relatively consistent throughout all academic unit types. Education C&I had the lowest response rate (22%) while Education Administration recorded the highest (36%). The mean response rate for the entire faculty sample was 30%. Table A.2 (Appendix A) provides a complete list of the academic units and their respective response rates.

Participant Sample

Faculty

A total of 813 faculty responses were received and scanned in order to compute an initial set of descriptive statistics. An inspection of these preliminary results revealed that some respondents had neglected to complete certain measures in their entirety. Closer scrutiny of the raw data showed that varying amounts of data had been omitted. Cases in which substantial portions of measures had been left blank were deemed aberrant and were subsequently deleted from the sample.

In all, 14 such responses were eliminated leaving a total of 799 usable responses from faculty members from the 103 academic units. Table 4.2 provides a summary of personal characteristics of the total faculty sample and Table 4.3 provides a summary of professional characteristics for the total sample of faculty. Just over 65% of the faculty respondents were male while white respondents comprised 91.3% of the sample. These totals compare favorably to the characteristics of full-time faculty members self-reported by academic unit heads (n=79) who completed the academic unit head supplemental information sheet. These

Table 4.2

Profile of Sample by Personal Characteristics of Faculty (n=799)

Characteristic	Frequency[a]	Percent[b]
Gender		
Female	274	34.9
Male	512	65.1
Age		
20-29	14	1.8
30-39	143	18.1
40-49	254	32.1
50-59	239	30.2
60-over	142	17.9
Race		
Asian	15	1.9
Black	22	2.8
Hispanic	22	2.8
White	713	91.3
Other	9	1.2

[a] Frequency totals may not add to 799 due to non-responses
[b] Percent of total group respondents

Table 4.3

Profile of Sample by Professional Characteristics of Faculty (n=799)

Characteristic	Frequency[a]	Percent[b]
Academic Unit		
Political Science	123	15.4
Psychology	214	26.8
Sociology	196	24.5
Education - C & I	101	12.6
Education - Admin/Leadership	87	10.9
Education - Other	78	9.8
Faculty Rank		
Full Professor	358	45.2
Associate Professor	219	27.7
Assistant Professor	182	23.0
Instructor	19	2.4
Other	14	1.8
Highest Degree Obtained		
BA/BS	2	0.3
MA/MS/MEd	17	2.1
Ed.D.	57	7.2
Ph.D.	713	90.0
Other	3	0.4

(table continues)

Characteristic	Frequency[a]	Percent[b]
Employment Status		
Tenured	571	72.3
Non-tenured	219	27.7
If non-tenured, on tenure track? (n=175)		
Yes	144	82.3
No	31	17.7
Level of Primary Teaching Assignment		
Undergraduate	305	38.2
Masters	87	10.9
Doctoral	268	33.5
Undergraduate & Masters	7	0.9
Undergraduate & Doctoral	33	4.1
Masters & Doctoral	16	2.3
All Levels	42	5.3
Graduate Faculty Status		
Yes	735	94.1
No	46	5.9

(table continues)

Characteristic	Frequency[a]	Percent[b]
Number of Years Employed as a Faculty Member in Higher Education		
1	30	0.3
2	32	4.1
3	33	4.2
4	49	6.2
5-9	133	16.8
10-14	96	12.2
15-20	102	12.9
21+	315	39.9
Number of Years Employed at Present Institution		
1	57	7.2
2	54	6.8
3	37	4.7
4	58	7.3
5-9	162	20.5
10-14	74	9.4
15-20	102	12.9
21+	246	31.1

(table continues)

Characteristic	Frequency[a]	Percent[b]
Number of Institutions of Higher Education In Which Employed as a Member of Faculty		
1	337	42.7
2	246	31.2
3	129	16.3
4	43	5.4
5	13	1.6
6 or more	12	2.7

[a] Frequency totals may not add to 799 due to non-responses
[b] Percent of total group respondents

unit heads report that males make up 69.3% of their faculty and that 88.8% of their faculty are white.

The sample's gender and race characteristics also compare well to those reported recently for faculty with teaching duties at public research institutions ("Characteristics," 1995). Based on data from 108,493 full-time faculty members teaching in public research institutions in Fall 1992, 77.4% of the faculty in these schools were male and 88.4% were white. The higher incidence of female respondents in the present study can probably be explained by the fact that one-third of the faculty respondents belonged to academic units in Colleges of Education. According to the Chronicle, female faculty in public research institutions make up 50.1% of the workforce in this academic discipline, yet Education faculty comprise only 7% of the total number of higher education faculty in the United States.

In addition to the 33.3% of the faculty respondents belonging to academic units in Colleges of Education, 26.8% came from Psychology, 24.5% from Sociology while the fewest responses (15.4%) came from faculty in Political Science. Nearly half of the respondents (48.1%) were 50 years of age or older.

Almost all (90.0%) of the respondents had obtained a Ph.D. with another 7.2% having earned an Ed. D. A total of 45.2% of the faculty participating in the study held the rank of Full Professor, nearly all (94.1%) were members of the Graduate Faculty and the majority (72.3%) were tenured. Only 3.9% of the faculty respondents were not tenured or hired on a tenure track. The primary teaching assignments for most of the faculty respondents were either undergraduate or doctoral students with 38.2% indicating undergraduate students as

their primary teaching assignment while 33.5% claimed their primary classroom efforts to be aimed at doctoral students.

More than half (52.8%) of the faculty respondents had been employed as a faculty member in higher education for at least fifteen years. Likewise, 44% had spent at least fifteen years employed at their present institution. A similar total (42.7%) had only been employed at one institution of higher education while nearly three-fourths of the respondents (73.9%) had been employed at no more than two institutions.

Academic Unit Heads

A profile of personal and professional characteristics of the 79 academic unit heads participating in the study can be found in Tables 4.4 and 4.5. Males made up 86.1% of this sample with 97.4% reporting their race as white. Sixty-two percent were 50 years of age or older.

A total of 40.5% of the academic unit head respondents represented units associated with Colleges of Education. 22.8% represented Sociology, 20.2% represented Political Science and 16.5% represented Psychology departments. All unit heads held at least the rank of Associate Professor with 80.8% being Full Professors. All academic unit heads were tenured, were members of the Graduate Faculty and each had earned either a Ph.D. or an Ed.D. The majority (62.0%) indicated that their primary level of teaching assignment was with doctoral level students.

The majority (59.5%) of the academic unit heads had been employed as a faculty member in higher education for 21 years or more. A total of 40.5% of these unit heads

Table 4.4

Profile of Sample by Personal Characteristics of Academic Unit Heads (n=79)

Characteristic	Frequency[a]	Percent[b]
Gender		
Female	11	13.9
Male	68	86.1
Age		
20-29	0	0.0
30-39	3	3.8
40-49	27	34.2
50-59	43	54.4
60-over	6	7.6
Race		
Asian	0	0.0
Black	1	1.3
Hispanic	1	1.3
White	76	97.4
Other	0	0.0

[a] Frequency totals may not add to 79 due to non-responses
[b] Percent of total group respondents

Table 4.5

Profile of Sample by Professional Characteristics of Academic Unit Heads (n=79)

Characteristic	Frequency[a]	Percent[b]
Academic Unit		
Political Science	16	20.2
Psychology	13	16.5
Sociology	18	22.8
Education - C & I	8	10.1
Education - Admin/Leadership	17	21.5
Education - Other	7	8.9
Faculty Rank		
Full Professor	63	80.8
Associate Professor	15	19.2
Assistant Professor	0	0.0
Instructor	0	0.0
Other	0	0.0
Highest Degree Obtained		
BA/BS	0	0.0
MA/MS/MEd	0	0.0
Ed.D.	13	16.7
Ph.D.	65	83.3
Other	0	0.0

(table continues)

Characteristic	Frequency[a]	Percent[b]
Employment Status		
Tenured	79	100.0
Non-tenured	0	0.0
Level of Primary Teaching Assignment		
Undergraduate	15	19.0
Masters	4	5.1
Doctoral	49	62.0
Undergraduate & Masters	0	0.0
Undergraduate & Doctoral	4	5.1
Masters & Doctoral	1	1.3
All Levels	4	5.1
Graduate Faculty Status		
Yes	78	100.0
No	0	0.0
Number of Years Employed as a Faculty Member in Higher Education		
1	0	0.0
2	0	0.0
3	1	1.3
4	0	0.0
5-9	2	2.5
10-14	13	16.5

(table continues)

Characteristic	Frequency[a]	Percent[b]
Number of Years Employed as a Faculty Member in Higher Education (cont.)		
15-20	16	20.3
21+	47	59.5
Number of Years Employed at Present Institution		
1	4	5.1
2	2	2.5
3	4	5.1
4	3	3.8
5-9	8	10.1
10-14	14	17.7
15-20	12	15.2
21+	32	40.5
Number of Institutions of Higher Education In Which Employed as a Member of Faculty		
1	28	35.4
2	26	32.9
3	17	21.5
4	5	6.3
5	1	1.3
6 or more	2	2.5

[a] Frequency totals may not add to 79 due to non-responses
[b] Percent of total group respondents

had been employed at their present institution for at least 21 years and for 35.4% their only faculty work experience was at their current institution.

Summary of Descriptive Statistics for Instrument Items

Descriptive statistics were computed for each instrument used to operationalize the various independent and dependent variables in the study. Tables of descriptive statistics for each instrument (IRCHE, FRCI, FSOEA Part I, FSOEA Part II, FDDI, IPOE and HEIDE) are located in Appendix C. These tables report the means, standard deviation and the percentage of the maximum possible score for each item, as well as response totals for each instrument. These tables include only the number of each instrument item. Cross-referencing item numbers for item content can be done by utilizing each original instrument included in the instrument set in Appendix B.

Actual item response totals varied for each instrument. Data were examined prior to the analyses for missing responses which were substituted with item grand means in order to maximize the number of useable responses for the computation of descriptive statistics. Faculty (n=799) item response totals ranged from a high of 797 for IRCHE item 5 to a low of 688 for IRCHE item 14. Academic unit head (n=79) item response totals ranged from a high of 79 for 11 of the HEIDE items to a low of 77 for HEIDE item 2.

Table 4.6 reports the range in item mean and standard deviation for each instrument and subscale. The FRCI was the instrument with the greatest range in means (1.39-3.97) for faculty responses, while the FSOEA-II was the instrument with the smallest range in

Table 4.6

Summary of Ranges in Item Means and Standard Deviations for All Measures and Subscales (n = 799)

Instrument/ Subscale	Maximum Item Rating	Ranges	
		Means	Standard Deviations
IRCHE	4	1.43 - 3.16	0.70 - 1.01
RECEP*	4	1.43 - 2.87	0.70 - 1.01
RECSBC	4	2.20 - 2.87	0.76 - 0.91
RECCNAF	4	1.43 - 2.78	0.70 - 1.01
RECCNPA	4	2.57 - 3.16	0.78 - 0.94
FRCI	5	1.39 - 3.97	0.76 - 1.34
RESIST*	5	1.39 - 2.47	0.76 - 1.34
RESIA	5	1.68 - 1.96	1.00 - 1.22
RESSBCR	5	1.67 - 2.41	1.00 - 1.23
RESSBC	5	1.39 - 2.91	0.76 - 1.13
RESCNC	5	3.46 - 3.97	1.15 - 1.22
FSOEA - I	5	2.64 - 4.23	0.86 - 1.13
EFFMO*	5	2.64 - 4.23	0.86 - 1.13
METS	5	2.88 - 4.23	0.86 - 1.13
OFER	5	3.53 - 3.86	0.96 - 1.08
OFES	5	2.64 - 3.08	0.97 - 1.00

(table continues)

Instrument/ Subscale	Maximum Item Rating	Ranges Means	Standard Deviations
FSQEA - II	4	2.85 - 3.57	0.57 - 0.88
OUTEFF*	4	2.85 - 3.57	0.57 - 0.88
OFOETRS	4	2.85 - 3.40	0.61 - 0.74
MOETS	4	2.98 - 3.57	0.57 - 0.88
MOER	4	3.22 - 3.40	0.66 - 0.78
FDDS (Actual)	4	1.80 - 3.87	0.43 - 1.15
FDDS (Desired)	4	2.21 - 3.92	0.32 - 0.94
FDDI	Index[a]	0.04 - 0.72	0.33 - 0.86
DECDEP*	Index	0.04 - 0.72	0.33 - 0.86
DDORG	Index	0.04 - 0.42	0.33 - 0.71
DDPER	Index	0.04 - 0.72	0.61 - 0.85
IPOE	5	2.98 - 4.00	0.74 - 0.95
HEIDE[b]	4	2.63 - 3.34	0.55 - 0.87

* One-factor solution for the measure

[a] The *decision deprivation* index was calculated by subtracting the actual from the desired level of decisional participation on each item.

[b] HEIDE scores reflect academic unit head responses (n=79)

mean (2.85-3.57; 0.72) for faculty responses. Table 4.7 identifies the items with the low and high mean on each instrument.

Summary of Results of Factor Analysis

Prior to conducting analyses pertinent to the primary research questions in this study, a series of factor analysis procedures was completed for the IRCHE, FRCI, FSOEA-Part I, FSOEA-Part II, and the FDDI. The results of these analyses for each of the study's measures are reported in the following sections.

IRCHE Factor Analyses

The original version of the Receptivity to Change Inventory (Hennigar, 1979) was designed for use with middle managers in school administration. Later revised by Crisafulli (1982) for use with classroom teachers, factor analyses from both applications provided support for the contention that receptivity to change be viewed as a unidimensional construct (Hennigar, 1979; Crisafulli, 1982). Subsequent use of slightly modified versions of the RCI by Chauvin (1992) and Loup (1994), and their resultant factor analytic studies, disconfirmed the previous findings providing instead empirical evidence that receptivity to change can be understood as a two-dimensional construct.

Clarke, Ellett, & Rugutt (1995) piloted the original 71-item Inventory of Receptivity to Change in Higher Education in a study of 502 faculty members in a southeastern state. In this study, acceptance of the two-factor, orthogonal solution as the best and most reasonable representation of the data resulted in the identification of two salient factors. The first factor, labeled Superficial/Behavioral Change (SBC) consisted of 12 items with loadings ranging in magnitude from .45 to .65. The second factor, labeled Cultural/Normative Change (CNC),

Table 4.7

Summary of Items with High and Low Means for All Measures (n = 799)

Instrument	Max. Rating	Mean	Item	Item Content
IRCHE	4	1.43	10	Limit the number of exams that faculty can administer in each course.
IRCHE	4	2.87	19	Design a grant writing and publication preparation workshop for all faculty to attend.
FRCI	5	1.39	10	Change the time of day that mail is delivered to faculty.
FRCI	5	3.97	14	Eliminate tenure for all faculty members.
FSOEA I	5	2.64	18	Goal: To enhance the quality of service to the university, community and profession. To what extent would failure to accomplish this goal result in increased efforts of other faculty to accomplish this goal in the future?
FSOEA I	5	4.23	1	Goal: To enhance the quality of teaching and student learning. How much energy/effort is put forth in your department (by you) to accomplish this goal?
FSOEA II	4	2.85	12	How would you rate the professional knowledge and skills other faculty in your department possess that you consider important for accomplishing your department's service goals?
FSOEA II	4	3.57	1	How would you rate the professional knowledge and skills you possess that are important for accomplishing your department's teaching goals?

(table continues)

Instrument	Max. Rating	Mean	Item	Item Content
FDDI	Index[a]	0.04*	4	Textbooks/teaching materials I use
FDDI	Index	0.04*	14	Departmental social activities
FDDI	Index	0.72**	6	Budgeting departmental funds
FDDI	Index	0.72**	12	Allocation of departmental resources (i.e. support staff, student workers, equipment use, etc.)
IPOE	5	2.98	6	When changes are made in methods, routines and/or equipment in your department, how quickly do individuals accept and adjust to these changes?
IPOE	5	4.00	2	How would you rate the quality of the products and services produced by individuals in your department?
HEIDE[b]	4	2.63	2b	When you think about the role of teaching, how would you rate the faculty in your academic unit with regard to their flexibility?
HEIDE	4	3.34	3d	When you think about the role of service, how would you rate the faculty in your academic unit with regard to the amount of service they provide?

* FDDI items 4 & 14 were the same magnitude

** FDDI items 6 & 12 were the same magnitude

[a] The *decision deprivation* index was calculated by subtracting the actual from the desired level of decisional participation on each item.

[b] HEIDE scores reflect academic unit head responses (n=79)

was comprised of 7 items with loadings ranging in magnitude from .48 to .74. This two-factor structure accounted for a total of 17.2% of the variance in the solution. The Pearson product moment correlation between the IRCHE SBC and CNC subscales in this initial development of the instrument was .07, $p>.05$ for the total sample ($n=502$) of faculty respondents. Cronbach Alpha internal consistency reliability coefficients were computed for each of the two IRCHE dimensions identified through the factor analyses. These coefficients were .82 for the SBC subscale and .84 for the CNC subscale.

Further review of these initial findings generated by the development of the IRCHE determined that a modification of the instrument was needed to assure that the 19 items operationalizing the SBC and CNC dimensions were truly reflecting such and were not merely the result of similarly worded items (e.g., those that proposed innovations that *required* adherence). As a result, the IRCHE was modified for utilization in this study to include six of the original subscale items, eleven original IRCHE items that did not load on either the SBC or CNC subscales (but had large variances) and three additional items.

An exploratory factor analysis was completed for the 20 revised items to further test the dimensionality of the receptivity to change construct. Table 4.8 provides a summary of the one-factor solution (RECEP) for the IRCHE. Factor loadings ranged from a low of .34 to a high of .58. Ten items did not demonstrate loadings meeting the minimum criteria for retention on the one-factor solution. A total of 11.6% of the variance in the data was explained by the one-factor solution.

Table 4.8

Summary of Factor Structure Coefficients for Items Retained for the One-factor Solution (RECEP) for the Inventory of Receptivity to Change in Higher Education (IRCHE) (n = 799)

IRCHE Item	1 Factor[a]
1	.39
2	.55
3	
4	
5	.50
6	
7	
8	
9	
10	.37
11	
12	
13	.44
14	
15	
16	.53

(table continues)

IRCHE Item	1 Factor[a]
17	.58
18	.34
19	.40
20	.37
Variance Explained[b] = 11.6%	

[a] Principal components solution
[b] Percentage of item variance explained by the one-factor solution

Results of the three-factor orthogonal solution (Table 4.9) were ultimately determined to be the most reasonable multiple factor representation of the data. Both the two and three-factor orthogonal solutions provided reasonable conceptual fits with Chauvin's (1992) and Loup's (1994) findings that the receptivity to change construct is two-dimensional, but only ten of the IRCHE's twenty items loaded in the two-factor solution, accounting for 20% of the total item variance.

A total of thirteen items loaded on the three-factor orthogonal solution; five each on Factors I and II and three on Factor III. Factor I, identified as Receptivity to Superficial/Behavioral Change (RECSBC), consists of items reflecting *administrivia*, policies that are not likely to immediately impact or affect procedures or functions considered to be among faculty core values. Factor I accounted for 9.9% of the variance in the data for the three-factor solution. Factor II, labeled as Receptivity to Cultural/Normative Change with an Academic Focus (RECCNAF), accounted for 9.4% of the variance in the data for the solution. Items loading on this factor suggest policy implementation that targets concepts central to a faculty member's academic identity (e.g., tenure, admission standards, grading policies). The third factor, Receptivity to Cultural/Normative Change regarding Procedural Authority (RECCNPA), is composed of items that merge basic tenets of Factors I and II by proposing that administrative oversight be given to faculty for policies affecting their core values and beliefs. Factor III accounted for 8.5% of the variance in the data for this solution.

Factor structure coefficients for this three-factor solution ranged from .40 to .69. Two items were cross-loaded but not retained as the difference between squared cross-loadings

Table 4.9

Summary of Rotated Factor Structure Coefficients for a Three-factor Orthogonal Solution for the Inventory of Receptivity to Change in Higher Education (IRCHE) (n = 799)

IRCHE Item	Communality Estimates[a]	Factor Coefficients I	II	III
1	.27	.05	**.48**	.18
*2	.31	.33	.42	.14
*3	.06	.23	-.00	.03
4	.46	-.03	.09	**.67**
*5	.32	.28	.33	.36
6	.24	.09	-.04	**.49**
7	.48	-.16	-.07	**.67**
8	.44	.31	**.50**	.29
*9	.06	-.03	.06	.24
10	.28	.07	**.52**	-.07
11	.24	.09	**.40**	-.28
*12	.02	-.04	.12	.08
13	.50	-.04	**.69**	.11
*14	.10	.29	-.08	-.08
*15	.10	.24	.11	.17
16	.38	**.56**	.23	-.11

(table continues)

IRCHE Item	Communality Estimates[a]	Factor Coefficients I	II	III
17	.35	**.48**	.30	.16
18	.40	**.61**	-.11	-.13
19	.35	**.59**	.01	-.07
20	.22	**.44**	.02	.16
Variance Explained[b]		9.9%	9.4%	8.5%
Variance Explained[c]	27.8% (Three-factor solution)			

Bold type indicates item/factor location

* Item loadings do not meet criteria established for item retention on factor

[a] Sum of squared loadings for this three-factor solution

[b] Percentage of item variance explained in the three-factor solution by each factor

[c] Percentage of total item variance explained by the three-factor orthogonal solution

did not exceed .20. The percentage of variance explained in the data for this solution was 27.8%. An item location index for the factored subscales of the IRCHE can be found in Appendix D (Table D.1). Item numbers can be cross referenced with item content using the IRCHE instrument which is included in Appendix B.

The intercorrelation between the RECSBC and the RECCNAF subscales was positive in direction and moderate in magnitude ($r=.37$, $p<.05$), while the intercorrelation between the RECSBC and the RECCNPA subscales was negative in direction and weak in magnitude ($r=-.01$, $p>.05$). The intercorrelation between the RECCNAF and the RECCNPA subscales was positive in direction and weak in magnitude ($r=.12$, $p>.05$).

FRCI Factor Analysis

Reviews of the factor analyses procedures as previously described, led to the determination that a four-factor, orthogonal solution represented the best statistical and conceptual, multiple factor interpretation of the data for the Faculty Resistance to Change Inventory (FRCI). Results of the one-factor solution (RESIST) are summarized in Table 4.10. A total of 16 of the 20 FRCI items loaded on a single factor with item loadings ranging from a low of .35 to a high of .61. The one-factor solution explained 19.9% of the variance in the data. Results of the four-factor, orthogonal solution are summarized in Table 4.11. Item loadings for this solution ranged from a low of .38 to a high of .75. The percentage of total item variance explained by the four-factor, orthogonal solution is 42.2%.

In all, 14 of the 20 FRCI items were retained in the four-factor orthogonal solution. Ten of the 14 items had loadings above .50. Two of the items were cross-loaded. A decision was made to retain these cross-loaded items on the factor of their highest loading (Factor III) due

Table 4.10

Summary of Factor Structure Coefficients for Items Retained for the One-factor Solution (RESIST) for the Faculty Resistance to Change Inventory (FRCI) (n = 799)

FRCI Item	1 Factor[a]
1	.61
2	.51
3	
4	.53
5	.45
6	.54
7	.41
8	.41
9	.35
10	.39
11	.36
12	.58
13	.54
14	
15	.45
16	.54

(table continues)

FRCI Item	1 Factor[a]
17	
18	
19	.58
20	.39
Variance Explained[b] 19.9%	

[a] Principal components solution
[b] Percentage of item variance explained by the one-factor solution

Table 4.11

Summary of Rotated Factor Structure Coefficients for the Four-factor Orthogonal Solution for the Faculty Resistance to Change Inventory (FRCI) (n = 799)

FRCI Item	Communality Estimates[a]	Factor Coefficients I	II	III	IV
1	.60	**.75**	.17	.04	-.07
*2	.48	.56	-.02	.39	-.13
3	.56	.31	-.41	**.48****	.25
4	.43	.42	-.02	**.47****	.17
*5	.44	-.01	.56	.36	.05
6	.48	.29	**.63**	.02	.02
*7	.19	.25	.13	.23	.24
*8	.19	.24	.20	.31	-.00
9	.40	-.12	**.49**	.24	.29
10	.35	.08	.14	**.57**	.04
11	.43	-.02	.18	**.63**	-.03
12	.55	.26	**.66**	.19	-.10
13	.54	**.73**	.11	-.04	-.01
14	.32	-.07	-.02	.05	**.56**
*15	.38	.39	.39	-.17	.23
16	.35	**.53**	.10	.19	.15
17	.57	.01	.01	.15	**.74**

(table continues)

FRCI Item	Communality Estimates[a]	Factor Coefficients I	II	III	IV
18	.56	.13	.21	-.18	**.68**
*19	.35	.44	.35	.19	.02
20	.25	.17	**.38**	.03	.26
Variance Explained[b]		13.2%	10.9%	9.3%	8.7%
Variance Explained[c]	42.2% (Four-factor solution)				

Bold type indicates item/factor location

* Item loadings do not meet criteria established for item retention on factor

** Retained on factor of highest loading

[a] Sum of squared loadings for this four-factor solution

[b] Percentage of item variance explained by each factor

[c] Percentage of total item variance explained

primarily to the conceptual fit and also out of concern for scale reliability as only two items were initially retained on this factor.

Factor I, Resistance to Increasing Authority (RESIA), consisted of three items and accounted for 13.2% of the variance for the solution. Items retained on this factor suggested increasing the authority of faculty and/or increasing the emphasis of academics in the higher education setting. The second factor, Resistance to Superficial/Behavioral Change that is Required (RESSBCR) was made up of four items and accounted for 10.9% of the variance for the solution. Each of these items either stated or implied that *all* faculty would be *required* to participate in the proposed change. Factor III, Resistance to Superficial/Behavioral Change (RESSBC), contained four items and accounted for 9.3% of the variance for this solution. Items retained on Factor III depicted policies, that if implemented, would have little, if any, direct bearing on the primary (teaching, research and service) roles of faculty. Factor IV, Resistance to Cultural/Normative Change (RESCNC), consisted of three items and accounted for 8.7% of the variance in the data for this solution. These items depict policy proposals that are central to higher education faculty and would have a direct bearing on the professorate as it is currently defined. Table D.2 (Appendix D) presents an item location index for the FRCI factored subscales that can be cross-referenced with the FRCI original instrument items (Appendix B) for item content.

Intercorrelations among the FRCI subscales were as follows: RESIA/RESCUER, .35 ($p<.05$); RESIA/RESSBC, .32 ($p<.05$); RESIA/RESCNC, -.04 ($p>.05$); RESCUER/RESSBC, .29 ($p<.05$); RESCUER/RESCNC, .11 ($p>.05$); RESSBC/RESCNC, .004 ($p>.05$).

FSOEA (Part 1) Factor Analyses

The factor analysis procedures previously described were completed for the FSOEA-I in an effort to verify the multidimensional structure of the self and organizational efficacy construct identified by Loup (1994) in her study of public school teachers and Ellett (1995) in his study of child welfare staff. These reviews, beginning with a one-factor solution, and continuing with various oblique and orthogonal two- through six- factor solutions, showed that this study would not be able to verify the same dimensions of self and organizational efficacy (*Me*, *Thee*, and *We*) identified by Loup (1994). Rather, the three-factor, orthogonal solution represented the best statistical and conceptual multiple factor interpretation of the data, but determined only the existence of *Me* and *Thee* dimensions.

Results of the one-factor solution (EFFMO) are summarized in Table 4.12. All 18 FSOEA-I items loaded on a single factor with item loadings ranging from a low of .36 to a high of .68. The one-factor solution explained 30.9% of the variance in the data. Results of the three-factor, orthogonal solution are summarized in Table 4.13. Item loadings for this solution ranged from a low of .53 to a high of .81. The percentage of total item variance explained by the three-factor, orthogonal solution was 55.7%.

Factor I, My (Self) Efficacy (Teaching/Service) (METS), consisted of six items and accounted for 19.6% of the variance for the solution. Items retained on this factor reflected the amount of personal effort and persistence expended by individual faculty members in: 1) working to enhance the quality of teaching and student learning in one's department, and 2) working to enhance the quality of service to the university, community and profession. Factor II, Other Faculty Efficacy (Research) (OFER), was made up of three items and

Table 4.12
Summary of Factor Structure Coefficients for Items Retained for the One-factor Solution (EFFMO) for the Faculty Self and Organizational Efficacy Assessment - Part I (FSOEA-I) (n = 799)

FSOEA-I Item	1 Factor[a]
1	.45
2	.61
3	.54
4	.68
5	.58
6	.66
7	.36
8	.45
9	.44
10	.51
11	.48
12	.52
13	.51
14	.58
15	.58
16	.64

(table continues)

FSOEA-I Item	1 Factor[a]
17	.64
18	.65
Variance Explained[b] = 30.9%	

[a] Principal components solution
[b] Percentage of item variance explained by the one-factor solution

Table 4.13

Summary of Rotated Factor Structure Coefficients for a Three-factor Orthogonal Solution for the Faculty Self and Organizational Efficacy Assessment - Part I (FSOEA-I) (n = 799)

FSOEA-I Item	Communality Estimates[a]	Factor Coefficients I	II	III
1	.32	**.53**	.21	.04
*2	.38	.29	.35	.41
3	.45	.63	.18	.10
*4	.48	.33	.40	.45
5	.42	**.56**	.27	.16
*6	.44	.34	.39	.41
*7	.52	-.27	.50	.45
8	.61	.23	**.74**	-.11
*9	.61	-.23	.59	.46
10	.68	.19	**.80**	-.04
*11	.56	-.12	.61	.42
12	.62	.22	**.76**	-.02
13	.60	**.75**	-.09	.16
14	.63	.23	-.04	**.76**
15	.66	**.78**	-.07	.23
16	.73	.29	-.03	**.81**
17	.64	**.75**	.03	.28

(table continues)

FSOEA-I Item	Communality Estimates[a]	Factor Coefficients I	II	III
18	.68	.28	.03	.77
Variance Explained[b]		19.6%	18.5%	17.5%
Variance Explained[c]	55.7%			

Bold type indicates item/factor location

* Item loadings do not meet criteria established for item retention on factor

[a] Sum of squared loadings for this three-factor solution

[b] Percentage of item variance explained by each factor

[c] Percentage of total item variance explained

accounted for 18.5% of the variance for the solution. These three items reflected the amount of effort and persistence perceived to be put forth by *other* faculty members in working to enhance the quality of research and scholarly productivity in one's department. Factor III, Other Faculty Efficacy (Service) (OFES), also contained three items and accounted for 17.5% of the variance for this solution. As with items retained on Factor II, items retained on Factor III reflected the amount of effort and persistence perceived to be put forth by *other* faculty members, in this instance working to enhance the quality of service to the university, community and profession in one's department. Table D.3 (Appendix D) presents an item location index for the FSOEA Part I factored subscales that can be cross-referenced with the FSOEA Part I original instrument items (Appendix B) for item content.

Intercorrelations among the FSOEA-I subscales were as follows: METS/OFER, .002 ($p>.05$); METS/OFES, .65 ($p<.05$); OFER/OFES, .09 ($p>.05$).

FSOEA (Part II) Factor Analyses

The factor analysis procedures previously described were also completed for the Faculty Self and Organizational Efficacy Assessment - Part II (FSOEA-II). Table 4.14 provides a summary of the one-factor solution (OUTEFF) for the FSOEA-II. Factor loadings ranged from a low of .34 to a high of .65. Two items did not demonstrate loadings meeting the minimum criteria for retention of the one-factor solution. The percentage of variance in the data explained by the one-factor solution was 23.9%.

Results of the three-factor orthogonal solution (Table 4.15) were ultimately determined to be the best and most reasonable multiple factor representation of the data.

Table 4.14

Summary of Factor Structure Coefficients for Items Retained for the One-factor Solution (EFFOUT) for the Faculty Self and Organizational Efficacy Assessment - Part II (FSOEA-II) (n = 799)

FSOEA-II Item	1 Factor[a]
1	.34
2	
3	
4	.50
5	.42
6	.50
7	.47
8	.40
9	.47
10	.57
11	.41
12	.48
13	.65
14	.58
15	.61
16	.61

(table continues)

FSOEA-II Item	1 Factor[a]
17	.45
18	.56
Variance Explained[b] = 23.9%	

[a] Principal components solution
[b] Percentage of item variance explained by the one-factor solution

Table 4.15

Summary of Rotated Factor Structure Coefficients for a Three-factor Orthogonal Solution for the Faculty Self and Organizational Efficacy Assessment - Part II (FSOEA-II) (n = 799)

FSOEA-II Item	Communality Estimates[a]	Factor Coefficients I	II	III
1	.32	.06	**.56**	-.03
2	.40	.06	-.07	**.62**
3	.46	-.03	**.67**	-.14
4	.37	.13	**.54**	.25
5	.57	.06	.07	**.75**
6	.54	.05	**.72**	.13
7	.42	.14	.63	.04
8	.48	.09	.05	**.68**
9	.51	.09	**.71**	.04
10	.46	**.64**	.03	.24
11	.62	**.70**	.13	-.32
12	.44	**.57**	-.11	.32
*13	.45	.36	.33	.46
14	.36	**.49**	.27	.20
*15	.41	.34	.29	.46
16	.48	**.65**	.11	.21

(table continues)

FSOEA-II Item	Communality Estimates[a]	Factor Coefficients I	II	III
17	.64	**.75**	.03	-.29
18	.41	**.56**	.05	.31
Variance Explained[b]		16.9%	15.6%	13.8%
Variance Explained[c]	46.3%			

Bold type indicates item/factor location

* Item loadings do not meet criteria established for item retention on factor

[a] Sum of squared loadings for this three-factor solution

[b] Percentage of item variance explained by each factor

[c] Percentage of total item variance explained

Item loadings for this solution ranged from a low of .49 to a high of .75. The percentage of total item variance explained by the three-factor, orthogonal solution is 46.3%.

Factor I, Other Faculty Outcomes Efficacy (Teaching/Research/Service) (OFOETRS), consisted of seven items and accounted for 16.9% of the variance in the solution. Items retained on Factor I reflect faculty perceptions regarding the levels of professional knowledge, responsibility and success *other* faculty in their academic unit have in accomplishing the unit's teaching, research and service goals. Factor II, My (Self) Outcomes Efficacy (Teaching/Service) (MOETS), was made up of six items and accounted for 15.6% of the variance in the solution. These six items reflect the amount of knowledge, responsibility and success faculty perceive themselves to have in accomplishing their academic unit's teaching and service goals. Factor III, My (Self) Outcomes Efficacy (Research) (MOER), contained three items and accounted for 13.8% of the variance for this solution. Items retained on Factor III also reflected the amount of professional knowledge, responsibility and success faculty perceive they have in accomplishing a goal of their academic unit; in this instance, research. Table D.4 (Appendix D) presents an item location index for the FRCI factored subscales that can be cross-referenced with the FRCI original instrument items (Appendix B) for item content.

Intercorrelations among the FSOEA-II subscales were as follows: OFOETRS/MOETS, .31 ($p<.05$); OFOETRS/MOER, .23 ($p<.05$); MOETS/MOER, -.04 ($p>.05$).

FDDI Factor Analyses

As previously discussed in Chapter 3, data generated from the Faculty Decision Deprivation Scale (FDDS) was used to create the Faculty Decision Deprivation Index

(FDDI); a measure of the difference between the *actual* amount of decision making and the *desired* amount of decision making a faculty member possesses. Table 4.16 provides a summary of the one- factor solution for the FDDI (DECDEP). Factor loadings ranged from a low of .35 to a high of .65. One of the fifteen FDDI items did not demonstrate a loading which met the minimum criteria for retention for the one-factor solution. The percentage of variance in the data explained by the one-factor solution was 29.1%.

Results of the two-factor orthogonal solution (Table 4.17) were ultimately determined to be the best and most reasonable multiple factor representation of the data. Item loadings for this solution ranged from a low of .45 to a high of .71. The percentage of total item variance explained by the three-factor, orthogonal solution was 38%.

The first factor, Decision Deprivation - Organizational (DDORG), consisted of nine items and accounted for 23.3% of the variance for the solution. Items retained on Factor I identify decisions made within an academic unit that primarily affect organizational processes. Factor II, Decision Deprivation - Personal (DDPER), was made up of five items and accounted for 14.7% of the variance for the solution. These five items identify decisions made within an academic unit that primarily impact the individual faculty member. Table D.5 (Appendix D) presents an item location index for the FDDI factored subscales that can be cross-referenced with the FDDI original instrument items (Appendix B) for item content. The intercorrelations between the two FDDI subscales was .53 ($p<.05$).

Summary of Reliability Analyses

Computation of Cronbach Alpha internal consistency reliability coefficients was performed for all instruments/subscales (IRCHE, FRCI, FSOEA-I, FSOEA-II, FDDI) as

Table 4.16

Summary of Factor Structure Coefficients for Items Retained for the One-factor Solution (DECDEP) for the Faculty Decision Making Deprivation Index (FDDI) (n = 799)

FDDI Item	1 Factor[a]
1	.53
2	.46
3	.35
4	
5	.60
6	.62
7	.56
8	.56
9	.63
10	.56
11	.59
12	.65
13	.53
14	.41
15	.60
Variance Explained[b] = 29.1%	

[a] Principal components solution
[b] Percentage of item variance explained by the one-factor solution

Table 4.17

Summary of Rotated Factor Structure Coefficients for a Two-factor Orthogonal Solution for the Faculty Decision Making Deprivation Index (FDDI) (n = 799)

FDDS Item	Communality Estimates[a]	Factor Coefficients I	II
1	.47	.21	**.65**
2	.32	.22	**.52**
3	.30	.07	**.54**
4	.42	-.12	**.63**
*5	.36	.48	.36
6	.49	**.70**	.06
7	.38	.33	**.52**
8	.32	**.47**	.30
9	.41	**.59**	.25
10	.32	**.53**	.22
11	.35	**.50**	.32
12	.50	**.70**	.11
13	.29	**.45**	.29
14	.26	**.51**	-.03
15	.51	**.71**	.01
Variance Explained[b]		23.3%	14.7%
Variance Explained[c]	38.0%		

(table continues)

Bold type indicates item/factor location
* Item loadings do not meet criteria established for item retention on factor
[a] Sum of squared loadings for this two-factor solution
[b] Percentage of item variance explained by each factor
[c] Percentage of total item variance explained

well as one-factor solutions used in the study (Table 4.18). The reliability coefficients reported for the IRCHE, FRCI, FSOEA-I, FSOEA-II and FDDI are based upon item/scale aggregations resulting from the factor analyses completed on each instrument as part of this study.

One-factor solution Alpha coefficients ranged from a low of .59 for the Inventory of Receptivity to Change in Higher Education (IRCHE) to a high of .87 for the Faculty Self and Organizational Efficacy Assessment Part I (FSOEA-I). These one-factor solution Alpha coefficients were generally higher than the Alpha coefficients computed for instrument subscales. For example, the Alpha coefficient for the one-factor solution of the (IRCHE) was .59 whereas the Alpha coefficients for the three subscales of the IRCHE ranged from .19 to .52.

Results of Analyses for Primary Research Questions

Seven primary research questions were utilized to guide major data analyses of this study. The first two questions explored the empirical nature of the constructs measured by the Inventory of Receptivity of Receptivity to Change in Higher Education (IRCHE) and the Faculty Resistance to Change Inventory (FRCI). The next three questions concentrated on the exploration of relationships among and between the study's variables. The sixth question fosters an exploration of the study variable's ability to predict organizational effectiveness in higher education settings. The final research question explores the structural relationships among the independent and dependent variables in the conceptual framework developed for this study. The following sections present the results of analyses for each of the primary research questions.

Table 4.18

Summary of Standardized Cronbach Alpha Reliability Coefficients for all Instruments/ Subscales and One-factor Solutions (n=799)

Instrument/Subscale	Alpha Coefficient
Inventory of Receptivity to Change in Higher Education (IRCHE) (20)[a]	
Subscales:	
Receptivity to Superficial/Behavioral Change (RECSBC) (5)[b]	.52
Receptivity to Cultural/Normative Change with an Academic Focus (RECCNAF) (5)	.19
Receptivity to Cultural/Normative Change regarding Procedural Authority (RECCNPA) (3)	.43
One-Factor Solution to the IRCHE (10)	.59
Faculty Resistance to Change Inventory (FRCI) (20)	
Subscales:	
Resistance to Increasing Authority (RESIA) (3)	.63
Resistance to Superficial/Behavioral Change that is Required (RESSBCR) (4)	.52
Resistance to Superficial/Behavioral Change (RESSBC) (4)	.52
Resistance to Cultural/Normative Change (RESCNC) (3)	.51
One-Factor Solution to the FRCI (16)	.78

(table continues)

Instrument/Subscale	Alpha Coefficient
Faculty Self and Organizational Efficacy Assessment Part I (FSOEA-I) (18)	
Subscales:	
My (Self) Efficacy (Teaching/Service) (METS) (6)	.83
Other Faculty Efficacy (Research) (OFER) (3)	.88
Other Faculty Efficacy (Service) (OFES) (3)	.89
One-Factor Solution to the FSOEA-I (18)	.87
Faculty Self and Organizational Efficacy Assessment Part II (FSOEA-II) (18)	
Subscales:	
Other Faculty Outcomes Efficacy (Teaching/Research/Service) (OFOETRS) (7)	.76
My (Self) Outcomes Efficacy (Teaching/Service) (MOETS) (3)	.74
My (Self) Outcomes Efficacy (Research) (MOER) (3)	.73
One-Factor Solution to the FSOEA-II (16)	.80
Faculty Decision Deprivation Index (FDDI) (15)	
Subscales:	
Decision Deprivation-Organizational (DDORG) (9)	.79
Decision Deprivation-Personal (DDPER) (5)	.58
One-Factor Solution to the FDDI (14)	.82

(table continues)

Instrument/Subscale	Alpha Coefficient
Index of Perceived Organizational Effectiveness (IPOE) (8)	.88
Higher Education Index of Departmental Effectiveness (HEIDE) (15)	.89

[a] Total number of items for the factor-analyzed version of the instrument in this study
[b] Number of items on the subscale

Research Question 1: What is the nature of the empirically-derived receptivity to change constructs measured by the IRCHE?

To answer this question, a variety of factor analyses were completed for the IRCHE faculty data. Starting with an unconstrained solution and then iteratively extracting from one to seven factors, the results for each solution were examined in view of the decision rules previously discussed. Of interest in these results (as with the factor analyses results of all variables examined) was the identification of a general, uni-dimensional measure of the construct in addition to a multiple factor solution that best identified any salient subconstructs. The results of the one-factor solution, the general measure of receptivity to change, explained 11.6% of the variation of the IRCHE data with a total of 10 of the 20 IRCHE items being retained. Loadings for this solution ranged from .34 to .58.

A decision was made to select a three-factor orthogonal solution as best representing the conceptual and statistical fit with prior studies that found the receptivity to change construct to reflect two dimensions; superficial/behavioral and cultural/normative (Chauvin, 1992; Loup 1994). Unlike the Chauvin and Loup studies, however, the cultural/normative dimension of receptivity to change was not represented by a single factor, but rather was represented in two factors. This solution accounted for 27.8% of the variation in the IRCHE data with a total of 13 of the 20 IRCHE items being retained on the three factors. Loadings on these three factors ranged from .40 to .69.

The three factored subscales identified aggregations of items that reflect the following concerns: 1) Receptivity to Superficial/Behavioral Change (RECSBC) (5 items): includes suggested university policies that would initiate change not seen as integral to the

maintenance or perpetuation of deep seated cultural norms for faculty; 2) Receptivity to Cultural/Normative Change with an Academic Focus (RECCNAF) (5 items): includes suggested university policies which affect culturally deep seated, core academic values of the professorate (tenure, classroom autonomy and academic standards); and 3) Receptivity to Cultural/Normative Change regarding Procedural Authority (RECCNPA) (3 items); includes suggested university policies designed to enhance faculty/academic status in decision-making processes affecting the culture of the academic unit.

Research Question 2: What is the nature of the empirically-derived resistance to change constructs measured by the FRCI?

As with the examination of the receptivity to change constructs, a variety of factor analyses were completed for the FRCI faculty data using the procedures and decision- making rules previously described. The results of the one-factor solution, the general measure of resistance to change, explained 19.9% of the variation of the FRCI data with a total of 16 of the 20 FRCI items being retained. Loadings for this solution ranged from .35 to .61. When considered collectively, the results of these analyses suggested that a four-factor orthogonal solution represented the best conceptual and statistical fit with the underlying constructs of resistance to change (viewed as an observable behavior of an individual that is an evident response in opposition to an innovation). This four-factor solution accounted for 42.2 % of the variation in the FRCI data with a total of 14 of the 20 FRCI items being retained on the four factors. Item loadings on these four factors ranged from .38 to .75.

The four factored subscales identified aggregations of items that reflect the following concerns: 1) Resistance to Increasing Authority (RESIA) (3 items): includes suggested

university policies designed to enhance faculty/academic status in decision-making processes affecting the culture of the academic unit; 2) Resistance to Superficial/Behavioral Change that is Required (RESSBCR) (4 items); includes suggested university policies that would initiate change not seen as integral to the maintenance or perpetuation of deep- seated cultural norms for faculty, but which either state or imply that adherence to the policy will be required by faculty; 3) Resistance to Superficial/Behavioral Change (RESSBC) (4 items); includes suggested university policies that would initiate change not seen as integral to the maintenance or perpetuation of deep-seated cultural norms for faculty; and 4) Resistance to Cultural/Normative Change (RESCNC) (3 items); includes suggested university policies which affect culturally deep-seated values of the professorate.

Research Question 3: Are there statistically significant, bivariate relationships between any of the independent variables (decision-making deprivation, self-efficacy, organizational efficacy, receptivity to change, and/or resistance to change) and the dependent variables (two measures of organizational effectiveness)?

In order to answer this question, Pearson product moment correlational analyses were completed using academic unit means as the unit of analysis. Correlation coefficients were computed between each of the one-factor solutions and multiple factored subscales of the instruments used to measure the independent variables (IRCHE, FRCI, FSOEA-I, FSOEA-II, and the FDDI) and the total scores for the IPOE and the HEIDE.

Table 4.19 summarizes intercorrelations among scores on the one-factor solutions of the IRCHE (RECEP), FRCI (RESIST), FSOEA-I (EFFMO), FSOEA-II (OUTEFF), FDDI (DECDEP) and scores on the IPOE and the HEIDE. Of particular interest here, are the

Table 4.19

Summary of Intercorrelations Among Scores on the One-factor Solutions of the IRCHE, FRCI, FSOEA-I & II, FDDI and IPOE & HEIDE Scores for All Academic Units (n=103)

Instrument/One-Factor Solution		IPOE(8)[a]	HEIDE(15)[b]
IRCHE	RECEP (Receptivity) (10)[c]	-.26**	.17
FRCI	RESIST (Resistance) (16)	-.00	.16
FSOEA-I	EFFMO (Efficacy Motivation) (18)	.57***	.40***
FSOEA-II	OUTEFF (Outcomes Efficacy) (16)	.58***	.39***
FDDI	DECDEP (Decision Deprivation) (14)	-.39***	-.08

[a] Number of items on IPOE
[b] Number of items on HEIDE
[c] Number of items on one-factor solutions

** $p<.01$
*** $p<.001$

correlations between both measures of efficacy and both measures of organizational effectiveness were statistically significant ($p<.001$) and positive in direction. The magnitude of the correlations of the efficacy measures was nearly identical on the IPOE (EFFMO=.57; OUTEFF=.58) and though lower on the HEIDE, again virtually the same (EFFMO=.40; OUTEFF=.39). In addition, correlations between two other one-factor solutions and the IPOE were statistically significant though negative in direction; DECDEP ($r= -.39$, $p<.001$) and RECEP($r= -.26$, $p<.01$).

The intercorrelations between scores on the multiple factor subscales of the independent variables and the two measures of organizational effectiveness are shown in Table 4.20. Statistically significant correlations were found between both organizational effectiveness measures and various subscales of the two efficacy instruments (FSOEA I and II). Interestingly, the perceptions that higher education faculty have regarding both the outcome efficacy and the efficacy motivation of "other faculty" in their academic unit are the subscales most highly correlated with organizational effectiveness. For example, a statistically significant ($p<.001$), positive correlation, was found between Other Faculty Outcomes Efficacy (Teaching/Research/Service) (OFOETRS) and both the IPOE ($r=.76$) and the HEIDE ($r=.40$). Likewise, a statistically significant ($p<.001$), positive correlation, was found between Other Faculty Efficacy (Research) and the IPOE ($r=.48$) and Other Faculty Efficacy (Service) and the IPOE ($r=.40$).

Also of some interest are statistically significant, negative correlations between Decision Deprivation-Organizational (DDORG) and the IPOE ($r= -.44$; $p<.001$) and Receptivity to Superficial/Behavioral Change (RECSBC) and the IPOE ($r= -.28$; $p<.01$). Only one

Table 4.20

Summary of Intercorrelations Among Scores on Multiple Factor Subscales of the IRCHE, FRCI, FSOEA-I&II, FDDI and IPOE & HEIDE Scores for All Academic Units (n=103)

Instrument/Subscale	IPOE(8)[a]	HEIDE(15)[b]
IRCHE		
Subscales:		
Receptivity to Superficial/Behavioral Change (RECSBC) (5)[c]	-.28**	-.00
Receptivity to Cultural/Normative Change with an Academic Focus (RECCNAF) (5)	-.18	.18
Receptivity to Cultural/Normative Change regarding Procedural Authority (RECCNPA) (3)	- .13	-.12
FRCI		
Subscales:		
Resistance to Increasing Authority (RESIA) (3)	-.03	.26**
Resistance to Superficial/Behavioral Change that is Required (RESSBCR) (4)	.07	.13
Resistance to Superficial/Behavioral Change (RESSBC) (4)	.02	.15
Resistance to Cultural/Normative Change (RESCNC) (3)	.13	-.00
FSOEA-I		
Subscales:		
My (Self) Efficacy (Teaching/Service) (METS) (6)	.22**	.30**
Other Faculty Efficacy (Research) (OFER) (3)	.48***	.21*
Other Faculty Efficacy (Service) (OFES) (3)	.40***	.35**

(table continues)

Instrument/Subscale	IPOE(8)[a]	HEIDE(15)[b]
FSOEA-II		
Subscales:		
Other Faculty Outcomes Efficacy (Teaching/Research/Service) (OFOETRS) (7)	.76***	.40***
My (Self) Outcomes Efficacy (Teaching/Service) (MOETS) (3)	.16	.27*
My (Self) Outcomes Efficacy (Research) (MOER) (3)	.13	.00
FDDI		
Subscales:		
Decision Deprivation-Organizational (DDORG) (9)	-.44***	-.12
Decision Deprivation-Personal (DDPER) (5)	-.15	.03

[a] Number of items on IPOE
[b] Number of items on HEIDE
[c] Number of items on one-factor solutions

* $p<.05$
** $p<.01$
*** $p<.001$

correlation coefficient between a Faculty Resistance to Change Inventory (FRCI) subscale and the organizational effectiveness measures was statistically significant (RESIA/HEIDE, $r=.26$, $p<.05$).

Research Question 4: Is there empirical support for the conceptualization of resistance to change as different from receptivity to change?

To examine this question, Pearson product moment correlations were computed between both the uni-dimensional measures (one-factor solutions) and the multi-factor subscales of the Inventory of Receptivity to Change in Higher Education (IRCHE) and the Faculty Resistance to Change Inventory (FRCI). Two sets of intercorrelations were computed, one using the individual faculty member across academic units (total sample) as the units of analysis and one using the faculty means for each academic unit as the units of analysis. Table 4.21 reports the results of these analyses.

Intercorrelations between the one-factor solutions for the IRCHE (RECEP) and the FRCI (RESIST) in both analyses were negligible. Using individual faculty as the unit of analysis, the correlation coefficient ($r = -.12$) was statistically significant ($p<.001$), negative in direction, but rather moderate in magnitude. Using academic unit means as the units of analysis, the intercorrelation between RECEP and RESIST was not statistically significant ($r =.07$).

Half of the intercorrelations between the IRCHE and FRCI multiple factor subscales and/or one-factor solutions were found to be statistically significant ($p<.05$ to $p<.001$); 11/20 correlation coefficients computed using the individual faculty member as the unit of analysis and 9/20 correlation coefficients utilizing the academic unit mean as the unit of analysis.

Table 4.21

Summary of Intercorrelations Among Scores on the One-factor Solutions and/or Multiple Factor Subscales of the IRCHE and the FRCI (n=799 or n=103)[a]

	IRCHE - Receptivity to Change							
	RECEP[1](10)[b]		RECSBC(5)		RECCNAF(5)		RECCNPA(3)	
	F[c]	AU[d]	F	AU	F	AU	F	AU
FRCI - Resistance to Change								
RESIST[1](16)	-.12***	.04	-.05	.02	-.07	.14	-.18***	.00
RESIA(3)	.07	.27**	.10**	.27**	.02	.22*	-.41***	-.28**
RESSBCR(4)	-.29***	-.23*	-.12***	-.13	-.07	-.08	-.05	-.07
RESSBC(4)	.14***	.33***	.08*	.16	.06	.29**	-.03	.16
RESCNC(3)	-.26***	.32***	-.09*	-.09	-.40***	-.41***	.02	.11

[a] Faculty as unit of analysis (n=799); Academic unit means as unit of analysis (n=103)
[b] Number of items in factored solution
[c] Correlation coefficient computed using individual faculty as the unit of analysis
[d] Correlation coefficient computed using faculty means for each academic unit as the unit of analysis

[1] One-factor solution (all others are multiple factor subscales)

* p<.05
** p<.01
*** p<.001

These statistically significant correlations were somewhat moderate in magnitude and ranged from -.41 to .33.

Research Question 5: To what extent is a faculty members' level of decision-deprivation and response to change (receptivity and/or resistance) mediated by efficacy variables?

To address this question, a series of partial correlational analyses was completed. Using academic unit means, and statistically controlling for the effects of the one-factor solutions of both parts of the Faculty Self and Organizational Efficacy Assessment (FSOEA I&II) (EFFMO and OUTEFF), partial correlation coefficients were computed between the one-factor solutions of the Inventory of Receptivity to Change in Higher Education (IRCHE), Faculty Resistance to Change Inventory (FRCI) and Faculty Decision Deprivation Index (FDDI). Table 4.22 provides a summary of these findings. Results showed that statistically controlling for the effects of either the FSOEA I or II one-factor solutions had almost no impact on the strength of the relationship between the FDDI one-factor solution (DECDEP) and either of the receptivity or resistance to change measure one-factor solutions (RECEP and RESIST). For instance, controlling for the effects of the perception of outcomes efficacy (OUTEFF; FSOEA II one-factor solution) barely altered the primary relationship between the FDDI one-factor solution (DECDEP) and the IRCHE one-factor solution (RECEP) ($r=.49$, $p<.001$; $r_p=.50$, $p<.001$; $\Delta r^2= .01$).

Research Question 6: How, and in what combinations, do the study variables predict organizational effectiveness in higher education settings?

In order to address this research question a multivariate analyses was completed using academic unit mean scores as the units of analysis. Specifically, a series of multiple regression

Table 4.22

Summary of Bivariate and Partial Correlation Coefficients for Academic Units Between One-factor Solutions of the FDDI, IRCHE and FRCI Controlling for the Effects of FSOEA I&II One-factor Solutions (n=103)

Variables	r	r^2	r_p[b]	r_p^2	Δr^2[c]
RESIST with DECDEP/EFFMO[a]	.20*	.04	.19	.04	.00
RECEP with DECDEP/EFFMO	.49***	.24	.50***	.25	.01
RESIST with DECDEP/OUTEFF	.20*	.04	.22*	.05	.01
RECEP with DECDEP/OUTEFF	.49***	.24	.50***	.25	.01

[a] Bivariate correlation variable/partial correlation variable
[b] Partial correlations computed by statistically controlling for the effects of both FSOEA I&II one-factor solutions
[c] Change in r^2

* $p<.05$
** $p<.01$
*** $p<.001$

analyses was completed by regressing both dependent variables (IPOE and HEIDE) on the uni-dimensional measures of each of the independent variables: receptivity to change (RECEP), resistance to change (RESIST), efficacy motivations (EFFMO), outcomes efficacy (OUTEFF), and decision-making deprivation (DECDEP). Four of the five independent variables were significantly entered into the regression equation resulting from this analysis.

Table 4.23 summarizes the results of this analysis. OUTEFF, the one-factor solution for Part II of the Faculty Self and Organizational Assessment (FSOEA II), was the first variable to enter the regression equation ($r = .58$, $F = 51.33$, $p<.0001$). This perception of outcomes efficacy accounted for 34% of the total variance among academic units in perceived organizational effectiveness as measured by the IPOE. One-factor solutions, DECDEP and EFFMO, each accounted for an additional 9% of the variance and RECEP accounted for another 4%.

Multiple regression analyses completed for the HEIDE (dependent variable) and the one-factor solutions (independent variables) indicated that the only significant variables to enter into the resulting regression equation were the one-factor solutions for the FSOEA I&II (EFFMO; $r=.40$, $F=14.86$, $p<.001$, and OUTEFF; $r=.43$, $F=8.66$, $p<.01$). EFFMO accounted for 16% of the variance while OUTEFF added another 3%. Table 4.24 reports the results of this analysis.

Research Question 7: What are the structural relationships, as well as the order, strength and direction of the linkages between variables in the conceptual framework?

A major intent of the study was to examine linkages between the independent variables and the two dependent variables of organizational effectiveness (IPOE and HEIDE). It

Table 4.23

Summary of Stepwise Multiple Regression Analyses Regressing IPOE on One-factor Solutions of the IRCHE, FRCI, FSOEA I&II, and FDDI (n=103)

Step	Variable	R	R^2	ΔR^2	F	p
1	OUTEFF	.58	.34	---	51.33	.0001
2	DECDEP	.65	.43	.09	36.97	.0001
3	EFFMO	.72	.52	.09	35.58	.0001
4	RECEP	.74	.56	.04	30.97	.0001
5	RESIST	---	---	---	---	.15

Table 4.24

Summary of Stepwise Multiple Regression Analyses Regressing HEIDE on One-factor Solutions of the IRCHE, FRCI, FSOEA I&II, and FDDI (n=79)

Step	Variable	R	R^2	ΔR^2	F	p
1	EFFMO	.40	.16	---	14.86	.0002
2	OUTEFF	.43	.19	.03	8.66	.004
3	DECDEP	---	---	---	---	.15
4	RECEP	---	---	---	---	.15
5	RESIST	---	---	---	---	.15

should be recalled from the factor analysis results that a total of 15 subscale variables were identified for the various independent variable measures. For ease of interpretation, and in order to develop a parsimonious model to explain relationships among variables in the study, a structural equation model was developed using the one-factor solutions for the various measures.

The advantage of using structural equation modeling (Bentler, 1993) to arrive at an interpretable structural model for the study is well illustrated by the complex pattern of bivariate relationships among the variables shown in Figure 4.3 which shows the linkages among variables using first the IPOE, and then the HEIDE as the dependent variable. The pattern of relationships suggests relatively strong, positive linkages between the efficacy measures and the IPOE as well as between the two measures of efficacy. Additionally, the results reported using the IPOE as the dependent variable suggest a moderately strong, positive relationship between receptivity and decision-making deprivation [$r = .49$, ($p<.05$)], but a moderate, negative relationship between decision-making deprivation and organizational effectiveness [$r = -.39$, ($p<.05$)]. Though results displayed in Figure 3 suggest a similar pattern of relationships between the variables using the HEIDE as the dependent variable, there are some notable exceptions [e.g., decision-making deprivation/IPOE, $r = -.39$ ($p<.05$); decision-making deprivation/HEIDE, $r = -.08$ ($p>.05$)].

In order to develop a clearer understanding of linkages among the study's variables, two structural equation models were developed, again using variables identified through one-factor solutions for the various measures used in the study. One model used the IPOE as the

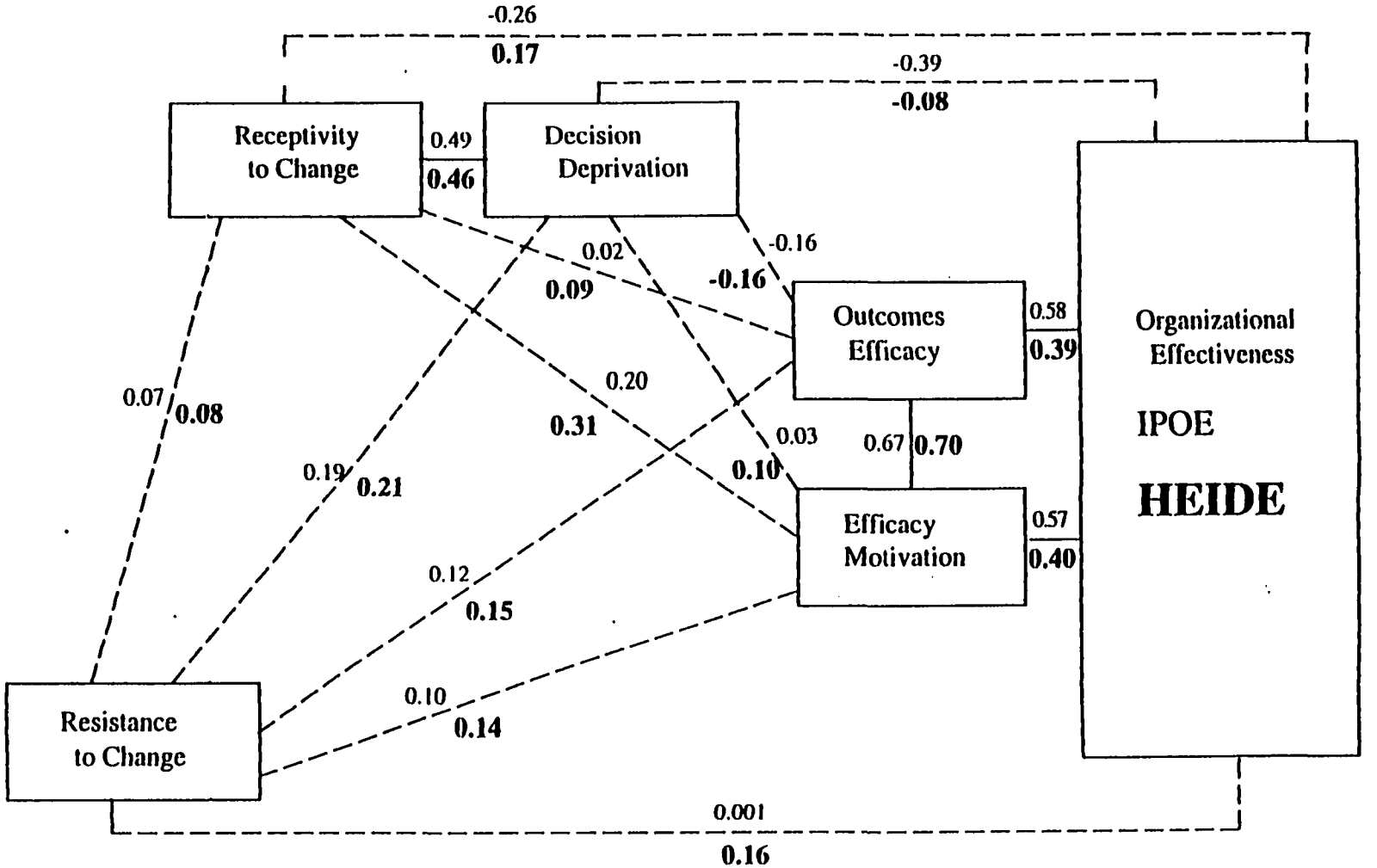

Figure 3

Bivariate linkages among variables explored in MCEHE using IPOE and HEIDE as dependent variables

dependent variable and the second model used the HEIDE as the dependent variable. The results of the two SEM's developed are described in the sections that follow.

SEM for Study Variables Using the IPOE as the Dependent Variable

This EQS structural model (Figure 4) was analyzed for fit of all variables in the model and overall (global) fit of the model using standardized covariance residuals (for each measured variable) and average absolute standardized residuals for the variable set as recommended by Bentler (1993) and explained through example by Byrne (1994). Standardized covariance residual values for the variables ranged from .000 (Receptivity/Resistance) to -.462 (Receptivity/IPOE). The average off-diagonal absolute standardized residual value was .0465. Considered collectively, and according to Bentler, (1993) these results reflect fairly good fit of the data to the model. However, there was a considerable degree of misfit to the model for Receptivity/IPOE (-.462), Outcome Efficacy/Receptivity (-.172) and Outcome Efficacy/Resistance (.166). The distribution of standardized residual values for the model variables identified these three covariance residuals as outliers. Because of the large Receptivity/IPOE covariance residual, the EQS model tested deleted the Receptivity measure. Thus the model was tested for one dependent variable (IPOE) and four independent variables (Resistance, Decision-making Deprivation, Efficacy Motivation and Outcomes Efficacy).

Chi square statistics were computed for the null (independence) model (166.594) and for the hypothesized model (36.706, $p<.001$). These results suggest that the hypothesized model as specified in the analysis was an *unlikely statistical event*. However, the comparative fit

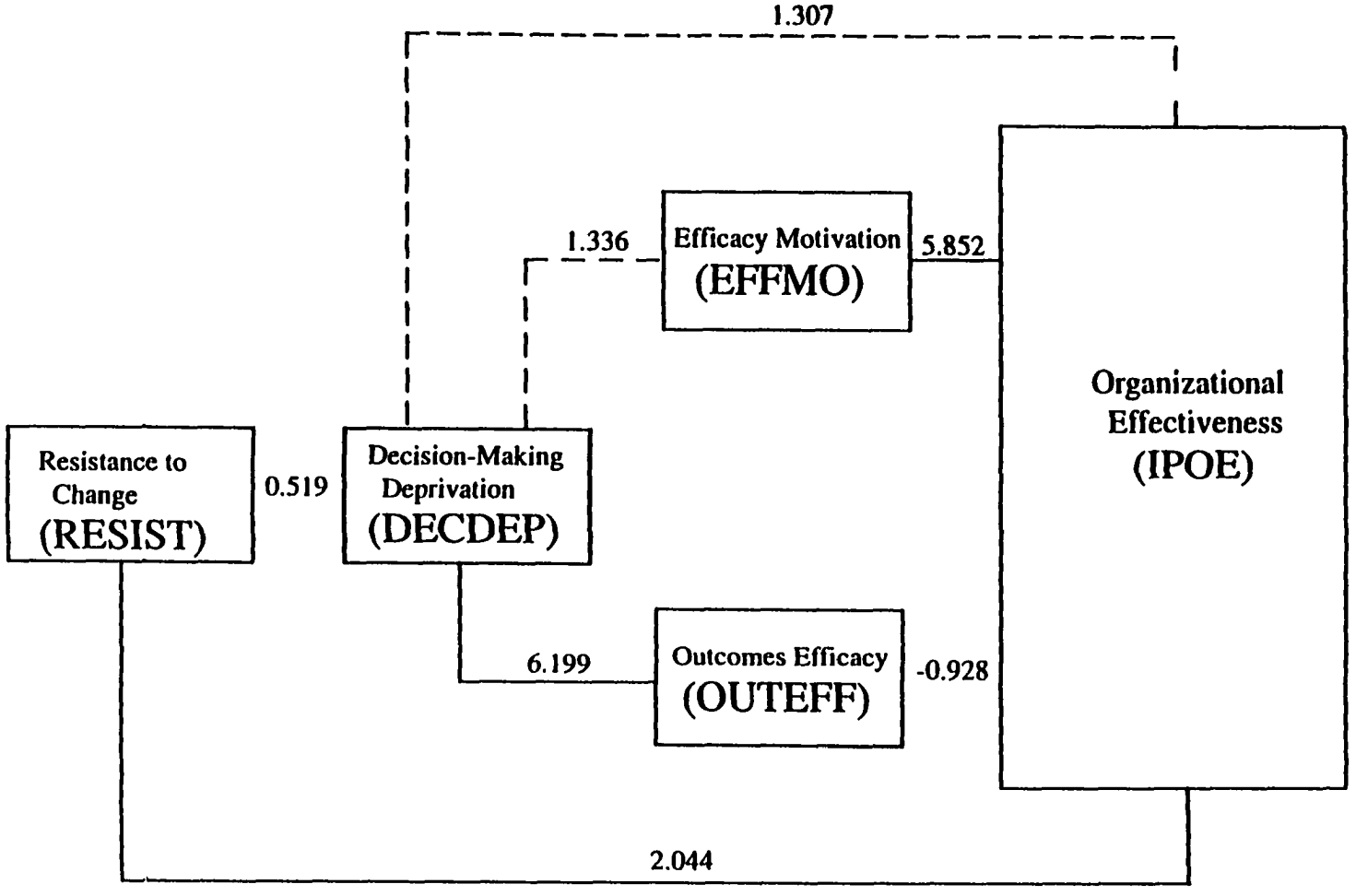

Figure 4

Structural equation model (SEM) for study variables using the IPOE as the dependent variable

index for the model (.811) approached the standard specified by Bentler (1993) (.90) for an acceptable model fit. The number of iterations needed to reach reasonable model convergence was also rather high (17), which suggests the model for examining relationships among the variables explored was statistically, only moderately adequate.

The EQS test statistic for the significance of parameter estimates (parameter estimate value divided by the parameter standard error) was examined for each variable in the model using the IPOE as the dependent variable. Parameter estimate values greater than + or - 1.96 are statistically different from zero ($p<.05$). The values for these test statistics were as follows: -.928 (Outcome Efficacy), 5.852 (Efficacy Motivation), 1.307 (Decision-making Deprivation), and 2.044 (Resistance to Change). These results show rather weak relationships between the Outcome Efficacy and Decision-making Deprivation measured variables and the IPOE.

Figure 4 depicts linkages among the variables explored in the EQS model using the IPOE as the dependent variable and shows the parameter estimate values for linkages among model variables. Solid lines in the model show statistically significant (strong) linkage among variables, dotted lines show rather weak ($p>.05$) linkages among variables, and variables not connected by lines are considered having little or no relationship. The strongest linkages among the measured variables were for the Efficacy Motivation measure and the IPOE (5.852) and the Decision Deprivation measure and the Outcome Efficacy measure (6.199). Resistance to Change and the IPOE measure were significantly related (2.044, $p<.05$). The parameter estimate values shown in Figure 4 also indicate rather weak linkages in the model tested between the Decision Deprivation measure and the IPOE (1.307) and the Efficacy

Motivation measure (1.336). The Outcomes Efficacy measure showed no linkages in the model to organizational effectiveness (IPOE).

SEM for Study Variables Using the HEIDE as the Dependent Variable

As with the EQS model that used the IPOE as the dependent variable, this EQS structural model was analyzed for fit of all variables in the model and overall fit of the model using standardized covariance residuals and average absolute standardized residuals for the variable set as recommended by Bentler (1993). After thirty iterations there was no convergence of the data to fit a statistically interpretable model. As a result, final standardized covariance residual values for the variables ranged from .000 (HEIDE/Efficacy Motivation; Receptivity/Resistance) to .460 (Receptivity/Decision Deprivation). The average off-diagonal absolute standardized residual value was .1385. Considered collectively, and according to Bentler, (1993) these results reflect poor fit of the data to the model. There was a considerable degree of misfit to the model for seven of the linkages. These included: Receptivity/Decision Deprivation (.460), Efficacy Motivation/Receptivity (.309), Resistance/Decision Deprivation (.215), Receptivity/HEIDE (.162), Resistance/Outcomes Efficacy (.147), Efficacy Motivation/Resistance (.139), and HEIDE/Decision Deprivation (-.110). Considered collectively, these results provide little support for a replication of the model explored for faculty views of linkages among the various personal and organizational variables.

Supplemental Research Questions and Analyses

In addition to the primary analyses, a variety of supplemental analyses were completed, as research questions emerged from the various analyses. Following is a presentation of the results of these analyses.

Supplemental Research Question 1: Are there score differences on the independent and dependent variables of the study among selected faculty groups classified by various demographic variables?

To answer this question, a series of t-tests and factorial analysis of variance (ANOVA) procedures was completed. First, an ANOVA was computed using the unidimensional, one-factor solutions of receptivity to change (RECEP), resistance to change (RESIST), efficacy motivation (EFFMO), outcomes efficacy (OUTEFF) and decision-making deprivation as dependent variables with three levels of age (old, middle, young), two levels of gender (male, female), and two levels of employment status (tenured, non-tenured) used as independent variables in the model. A one-way ANOVA model was also completed for the one-factor solutions and the IPOE using faculty rank, ethnicity, academic unit type, years employed in higher education as a faulty member, and categories of years employed at one's present institution as independent variables. Both main and interaction effects were examined in all factorial ANOVA procedures using faculty scores as the units of analysis. When a significant F-value was obtained, Scheffe's multiple post hoc comparison tests were executed. In addition, a t-test for independent means, using pooled variance estimates, was completed for the one-factor solutions and the IPOE using faculty members' primary level of teaching assignment (doctoral or undergraduate).

A statistical index was then computed to define a standard for judging *meaningful differences* between sub-group means in the ANOVA and t-test comparisons made. This standard reflected differences between group means that were a minimum of .33 standard deviation units of the raw score standard deviation of the total sample for the particular variable used in the ANOVA and t-test comparisons between groups. A summary of these ANOVA and t-test results of meaningful significance can be found in Table 4.25. Findings of interest included the following: faculty aged 50+ were apt to be more resistant to change than faculty not yet 40, whereas the younger faculty were more likely to possess greater levels of decision-making deprivation than their older counterparts; non-tenured faculty were more receptive to change and had higher levels of efficacy motivation and decision-making deprivation than tenured faculty; female faculty members, too, recorded higher levels of receptivity to change, efficacy motivation and decision deprivation than male faculty; and assistant and associate professors were both more receptive to change than full professors.

Supplemental Research Question 2: Are there score differences between individual Inventory of Receptivity to Change in Higher Education (IRCHE) and Faculty Resistance to Change Inventory (FRCI) items and selected faculty demographic variables?

As described above, a statistical index was computed to define a standard for judging *meaningful differences* between sub-group means in the ANOVA and t-test comparisons made between each of the twenty items on the IRCHE and FRCI and the following faculty demographic variables: age, gender, tenure status, and faculty rank. Since the same twenty items comprised both the IRCHE and the FRCI, meaningful levels in the difference of receptivity to change and resistance to change were possible among each demographic

Table 4.25

Summary of Differences of Meaningful Significance[a] Between Selected Demographic Subgroup Means in ANOVA and t-test Comparisons Made with Uni-dimensional Measures of Receptivity to Change, Resistance to Change, Efficacy Motivation, Outcomes Efficacy, Decision Deprivation, and the IPOE as the Dependent Variable

Subgroups	RECEP	RESIST	EFFMO	DECDEP	IPOE
Age[b]					
Old/**Y**oung		**O** (+.35)		**Y** (+.42)	
Old/**M**iddle					
Middle/**Y**oung					
Gender					
Female/**M**ale	**F** (+.46)		**F** (+.40)	**F** (+.44)	
Employment Status					
Tenure/**N**on-**T**enure	**NT**(+.64)		**NT**(+.42)		**NT**(+.63)
Faculty Rank[c]					
Full/**A**ss**O**ciate	**AO**(+.34)				**F** (+.38)
Full/**AS**sistant	**AS**(+.70)		**AS**(+.33)	**AS**(+.77)	
Ass**O**ciate/**AS**sistant	**AS**(+.36)			**AS**(+.46)	
Academic Unit					
Educ./**S**ociology	**E** (+.41)				
Educ./**PsY**chology	**E** (+.68)				**PY**(+.37)
Educ./**P**olitical Sci.	**E** (+.69)		**E** (+.41)		
Sociology/**PsY**ch.					**PY**(+.47)
Sociology/**P**ol. Sci.					
PsYch./**P**ol. Sci.					**PY**(+.58)

(table continues)

Subgroups	RECEP	RESIST	EFFMO	DECDEP	IPOE
Years Employed[d]					
High/Upper					
High/Middle				M (+.38)	
High/Low	L (+.46)		L (+.40)	L (+.60)	
Upper/Middle					
Upper/Low	L (+.41)			L (+.39)	
Middle/Low					
Primary Teaching Assignment					
Doctoral/Undergrad				U (+.37)	

[a] A statistical index was computed to define a standard for judging differences between subgroup means in the ANOVA and t-test comparisons made. This standard reflected differences between group means that were a minimum of .33 standard deviation units of the raw score standard deviation of the total sample for the particular variable used in the ANOVA and t-test comparisons between groups.

[b] Age: Young = 20-39; Middle = 40-49; Old = 50 & over

[c] Faculty Rank = Professor Level

[d] Years Employed (at current institution): Low = 4 & less; Middle = 5-9; Upper = 10-20; High = 21 & over

subgroup. Meaningful differences among at least one of the demographic subgroups were found for eight of the items. Such differences in both receptivity and resistance to change were found for four items (though not necessarily the same demographic subgroup). Meaningful differences in levels of receptivity (but not resistance) among demographic subgroups was noted for three additional items and a meaningful difference in the level of resistance, but not receptivity was found in one item.

A summary of differences of meaningful significance between tenure status and faculty rank subgroups and individual IRCHE items is shown in Table 4.26. As can be seen in the table non-tenured faculty were more positive in their perspective on five of six IRCHE items.

Comparisons by faculty rank showed that assistant professors were more receptive to suggested policy changes than were full professors on six of seven IRCHE items. The only exception was for item number nine (*set limits on the amount of outside consulting that faculty members can do for pay*) in which full professors agreed to a greater extent than assistant professors (mean score difference = .47 of one standard deviation unit).

Findings of interest include: 1) female faculty are more receptive to a policy proposed to *require all students to take a course designed to enhance multicultural awareness* (.47) while their male counterparts are more resistant (.35) to the likely implementation of such a policy, 2) tenured faculty are more resistant than non-tenured faculty to proposed policies to *design a grant writing and publication preparation workshop for all faculty to attend* (.34), *insure that all faculty advise an equal number of students* (.40), and perhaps not surprisingly *eliminate tenure for all faculty members* (.45), and 3) assistant professors are more receptive

Table 4.26

Summary of Differences of Meaningful Significance[a] Between Selected Demographic Sub-group Means in ANOVA and t-test Comparisons Made with Individual Items on the IRCHE

IRCHE Item	Item Content	Tenure Status[b]	Faculty Rank[c]
2	Require that all faculty participate in CPR training	NT (.39)d	3-1 (.34)[e]
5	Require all students to take a course designed to enhance multi-cultural awareness	NT (.37)	2-1 (.40) 3-1 (.48)
9	Set limits on the amount of outside consulting that faculty members can do for pay	T (.40)	1-3 (.47)
13	Eliminate the A, B, C, D, F grading scale and replace it with a credit/ no credit policy	NT (.41)	3-1 (.45) 3-2 (.36)
17	Insure that all faculty advise an equal number of students	NT (.36)	3-1 (.34)
19	Design a grant writing and publication preparation workshop for all faculty to attend	NT (.42)	3-1 (.52)
20	Change the procedures for selecting departmental support staff	---	3-1 (.41)

[a] A statistical index (see page 165) was computed to determine meaningful difference
[b] Tenure Status: T = Tenured; NT = Non-Tenured
[c] Faculty Rank: 1 = Full Professor; 2 = Associate Professor, 3 = Assistant Professor
[d] Non-tenure faculty mean score exceeds tenured faculty mean score by .39 of one standard deviation unit
[e] Assistant Professor (3) rank mean exceeds Full Professor (1) rank mean by .34 of one standard deviation unit

to a policy proposed to *eliminate the A, B, C, D, F grading scale and replace it with a credit/no credit policy* than either full professors (.45) or associate professors (.36).

Supplemental Research Question 3: To what extent do the general relationships among independent and dependent variables in the study, using academic unit means as the units of analysis, vary within sample academic units, using individual faculty members as the units of analysis?

In order to determine the amount of variation in relationships among key study variables, as well as to ascertain possible effects of common method variance, within academic unit correlations between all independent variable one-factor solutions, selected multi-factor subscales and a dependent measure of organizational effectiveness (IPOE) were computed for each of the 103 academic units included in the study. Table 4.27 presents a synopsis of these computations utilizing correlation and descriptive statistic results from elected efficacy variables and the IPOE which are typical of the range in relationships among various study variables. Academic units were selected for inclusion in this table based upon comparable descriptive statistics (faculty response size, means and standard deviations).

Results depicted in Table 4.27 show a marked difference from the relationships reported between these same variables using academic units as the units of analysis (refer to Tables 4.19 & 4.20). For example, correlation coefficients between IPOE/EFFMO ranged from .16 ($p>.05$) to .52 ($p>.05$) using within academic unit means as the units of analysis, as compared to the .57 ($p<.001$) using all academic means as the units of analysis. Other ranges in correlations for within academic unit comparisons include: IPOE/OUTEFF, .50 ($p>.05$) to .73 ($p<.05$); IPOE/METS, -.26 ($p>.05$) to .59 ($p>.05$); and IPOE/OFOETRS, .37 ($p>.05$) to

Table 4.27

Summary of Pearson Product Moment Correlations and Descriptive Statistics for the IPOE (Organizational Effectiveness) and Selected Efficacy Variables

Academic Unit	n[a]	Correlation Coefficient	M	SD	M	SD
		IPOE/EFFMO[b]	IPOE		EFFMO	
Academic Unit A	11	.52	30.01	3.33	61.51	8.27
Academic Unit B	12	.33	30.15	3.99	64.78	7.99
Academic Unit C	21	.16	30.32	4.16	65.09	7.84
		IPOE/METS[c]	IPOE		METS	
Academic Unit A	11	.59	30.01	3.33	20.64	4.21
Academic Unit B	12	-.02	30.15	3.99	20.13	3.90
Academic Unit C	21	-.26	30.32	4.16	20.64	4.21
		IPOE/OUTEFF[d]	IPOE		OUTEFF	
Academic Unit D	13	.73**	30.92	3.35	51.62	5.11
Academic Unit E	13	.61*	30.23	3.68	52..08	3.77
Academic Unit A	11	.50	30.01	3.33	51.11	3.31
		IPOE/OFOETRS[e]	IPOE		OFOETRS	
Academic Unit D	13	.70**	30.92	3.35	22.62	1.98
Academic Unit E	13	.66*	30.23	3.68	22.23	3.22
Academic Unit A	11	.37	30.01	3.33	22.54	2.38

[a] Number of faculty members
[b] EFFMO = One Factor Solution for FSOEA-I (Efficacy Motivation)
[c] METS = FSOEA-I Multi-factor Subscale: My (Self) Efficacy (Teaching/Service)
[d] OUTEFF = One Factor Solution for FSOEA-II (Outcomes Efficacy)
[e] OFOETRS = FSOEA-II Multi-factor Subscale: Other Faculty Outcomes Efficacy

* $p<.05$
** $p<.01$

.70 ($p<.05$). Due to the wide range in variation reported among these correlations, it might be inferred that covariation among these variables is not directly attributable to common method variance concerns. Of course, variation among correlations within academic units in this study is not an exact test of common method variance concerns.

Supplemental Research Question 4: Are there statistically significant, bivariate relationships *between* faculty perceptions of the study variables and perceptions of academic unit heads of how their faculty will typically perceive these variables?

In order to answer this question, Pearson product moment correlational analyses were completed using academic unit means as the unit of analysis. Correlation coefficients were computed between each of the one-factor solutions and multiple factored subscales of the instruments used to measure the study variables (IRCHE, FRCI, FSOEA-I, FSOEA-II, FDDI, and the IPOE) as reported by faculty and each of the same one-factor solutions and multiple factored subscales as reported by academic unit heads when asked to predict how faculty would respond.

Table 4.28 summarizes intercorrelations among scores reported by faculty and scores reported by the academic unit heads for each of the study variable's one-factor solutions and multiple factor subscales. Correlation coefficients ranged from .11 (RESIST) to .54 (IPOE) on the one-factor solutions, and from -.02 (DDPER) to .36 (OFER). Of particular interest here, is the absence of any particularly strong correlations. Twelve of the twenty-one correlations shown in Table 4.28 were statistically significant and positive in direction. These correlations ranged in magnitude from .54 (IPOE) to .25 (one-factor solutions: EFFMO & OUTEFF; subscales: RECCNAF & OFOETRS). Also of interest are the comparably low

Table 4.28

Summary of Intercorrelations Among Scores Reported by Faculty and Scores Reported by the Academic Unit Heads on One-factor Solutions and Multiple Factor Subscales of the IRCHE, FRCI, FSOEA-I&II, FDDI, and IPOE (n=79)

Instrument/Subscale	Correlation Coefficient
IRCHE	
One- Factor Solution (RECEP)	.39***
Subscales:	
Receptivity to Superficial/Behavioral Change (RECSBC)	.26*
Receptivity to Cultural/Normative Change with an Academic Focus (RECCNAF)	.25*
Receptivity to Cultural/Normative Change regarding Procedural Authority (RECCNPA)	.06
FRCI	
One-Factor Solution (RESIST)	.11
Subscales:	
Resistance to Increasing Authority (RESIA)	.16
Resistance to Superficial/Behavioral Change that is Required (RESSBCR)	.03
Resistance to Superficial/Behavioral Change (RESSBC)	.08
Resistance to Cultural/Normative Change (RESCNC)	.21
FSOEA-I	
One- Factor Solution (EFFMO)	.25*

(table continues)

Instrument/Subscale	Correlation Coefficient
Subscales:	
My (Self) Efficacy (Teaching/Service) (METS)	.31**
Other Faculty Efficacy (Research) (OFER)	.36**
Other Faculty Efficacy (Service) (OFES)	.27*
FSOEA-II	
One- Factor Solution (OUTEFF)	.25*
Subscales:	
Other Faculty Outcomes Efficacy (Teaching/Research/Service) (OFOETRS)	.25*
My (Self) Outcomes Efficacy (Teaching/Service) (MOETS)	.28*
My (Self) Outcomes Efficacy (Research) (MOER)	.35**
FDDI	
One- Factor Solution (DECDEP)	.12
Subscales:	
Decision Deprivation-Organizational (DDORG)	.09
Decision Deprivation-Personal (DDPER)	-.02
IPOE	.54***

* $p<.05$
** $p<.01$
*** $p<.001$

correlations concerning decision-making deprivation subscales (DDORG: r=.09, p>.05; DDPER: r= -.02, p>.05) and the two superficial/behavioral resistance to change subscales (RESSBCR: r=.03; p>.05; RESSBC: r=.08, p>.05).

Chapter Summary

A summary of the results of the data analyses conducted in this study has been presented in Chapter 4. These summaries include: descriptive statistics for the sample as well as for the study's independent and dependent variables; extensive factor analyses for the IRCHE, FRCI, FSOEA and FDDS; reliability analyses for all measures, and intercorrelations among instrument subscales. In addition, a summary of results pertinent to the study's seven primary research questions and three supplemental research questions is provided.

Chapter 5 presents a summary of major findings and conclusions of the study. Discussion includes various theoretical, practical and methodological implications in addition to addressing suggestions for future research.

CHAPTER 5: CONCLUSIONS, DISCUSSION, IMPLICATIONS

This chapter begins with a brief overview and a summation of the study's major findings and conclusions. Subsequent discussion highlights various theoretical, methodological and practical implications of the findings. Suggestions for future research are also provided.

Overview of the Study

This study was designed to explore linkages between several variables believed to mediate the process of change in higher education settings in order to further the understanding of linkages between innovation and organizational outcomes. Given the multiplicity of relations thought to exist between innovation, personal variables, behavior of organizational members and organizational effectiveness, an initial model, the Model of Change and Effectiveness in Higher Education (MCEHE) (Figure 2), was developed for the study to organize and conceptualize linkages among receptivity to change, resistance to change, faculty decision-making deprivation, self and organizational efficacy, and organizational effectiveness.

Design of the study was prompted, in part, by an increase in pressure being exerted both internally and externally upon higher education institutions to enact change and adopt innovations that will improve efficiency and accountability. It was also primarily initiated by an apparent lack of empirical research seeking to explain aspects of organizational behavior in higher education, despite the existence of an abundance of descriptive and suppositional work concerning innovation and change in post secondary settings. This study can also be considered a conceptual and empirical extension of a number of recent efforts that have investigated similar linkages between characteristics of complex organizations and social

systems, and multiple organizational effectiveness variables (Chauvin, 1992; Ellett, 1995; Loup, 1994; Johnson, 1991) and recent syntheses of such studies (Ellett et al., 1994).

The specific focus of this study was determining the extent to which a response to the introduction of an innovation in higher education settings can be linked to multiple indices of organizational effectiveness. Identified linkages were promulgated through the mediating influences of faculty self-efficacy, organizational efficacy and decision-making deprivation.

Clarifying the many ambiguities and discrepancies between conceptual definitions and use of the terms *receptivity to change* and *resistance to change* was also of interest in the study. Of additional interest was broadening our understanding of the study variables in the context of higher education settings, particularly: 1) receptivity to change as a two-dimensional variable, 2) efficacy as a construct empirically verified at three levels (Loup, 1994), and 3) decision-making deprivation as a personal variable impacted by organizational structure.

Following the previous work of Loup (1994), conceptual development of the Model of Change and Effectiveness in Higher Education (MCEHE) was predicated on a number of assumptions. First of all, it was assumed that change is an intricate, on-going, non-linear process (Paul, 1977) and that it's dynamic nature in organizations can be best explained by examining both the individual and institutional dimensions of organizational behavior as influenced by both the unique characteristics of the organization as well as the larger external environment (Getzel & Guba, 1957). Inclusion of factors idiosyncratic to individual members of the organization was deemed essential to the study since without change in the individual, organizational change does not take place (Giacquinta, 1973).

Traditional models of change (e.g., Figure 1) assume the problem of effecting change is one of bringing about adoption of innovation(s) (Parker, 1980). As such, studies investigating the response to the introduction of an innovation have typically attempted to uncover correlates of receptivity and resistance to change, rather than examine relationships between these variables. Furthermore, many of these efforts have assumed that people, and thus organizations are inherently unreceptive to change (Coch & French, 1948; Morris & Raben, 1995). This has resulted in using the terms *resistance to change* and *receptivity to change* interchangeably, assuming there to be an inverse, one-to-one relationship between the variables (i.e. high receptivity = low resistance).

In conceptually developing the Model of Change and Effectiveness in Higher Education (MCEHE), neither of these assumptions was made. Rather it was assumed that receptivity to change and resistance to change were two distinct variables. Receptivity was viewed as an organizational member's internal orientation toward the proposed innovation which is not necessarily indicative of how the individual will actually respond to the implementation of the innovation. Resistance, on the other hand, was viewed as one's external orientation toward planned organizational change reflected in the action(s) one embraces to stop, delay or otherwise undermine the successful implementation of the innovation.

In addition to identifying receptivity to change and resistance to change as two distinct personal variables thought to mediate linkages between innovation and organizational effectiveness, the Model of Change and Effectiveness in Higher Education (MCEHE) acknowledges the conceptual complexity of the change process by incorporating several other variables which seem to be key to understanding the behavior of members of organizations.

Specifically, decision-making deprivation (the difference between one's perceptions of actual and desired levels of participation in decision-making) (Johnson & Ellett, 1995) and efficacy (both self and organizational) (Bandura, 1977, 1993) were constructs included in the MCEHE since they have been previously identified in the literature as related to both receptivity and/or resistance to change and organizational effectiveness (Loup, 1994; Ellett, 1995).

Strength of the linkages between the variables, and the variables' ability to mediate innovation and organizational effectiveness in the MCEHE were assumed to be impacted by the type of innovation proposed (or introduced) into the organization (i.e. superficial/behavioral or cultural/normative). The exploratory nature of the study, however, negated the presupposition of the direction and magnitude of these interactions. Likewise, the inclusion of two measures of organizational effectiveness assumed the possibility that the strength and direction of the linkages of these variables is apt to vary. If viewed from the perception of faculty members, the strength and direction may be different than when viewed from the perception of academic unit heads.

Prior to examining linkages among the variables in the MCEHE, development and/or adaptation of measures to higher education settings was necessary. For example, a review of literature disclosed that while development of a measure of receptivity to change in elementary and secondary teachers has been recently completed (Chauvin, 1992; Crisafulli, 1982; Loup, 1994), similar efforts to develop a higher education faculty measure of receptivity to change have been limited (Kaslow, 1974; Clarke, Ellett & Rugutt, 1995). Furthermore, there are no known measures of resistance to change when resistance is conceptually defined as distinct from receptivity. Likewise, while there have been recent

efforts to measure self and organizational efficacy in a variety of settings (Bandura, 1993; Ellett, 1995; Loup, 1994), measurement of self-efficacy in institutions of higher education has focused upon student persistence and achievement, college major and career choice, and individual's attitudes toward technological innovation. *There are no known studies of faculty with regard to their primary roles of teaching, research and service except the one reported here.*

Two other measures were adapted for use in higher education settings: 1) an oft-modified decision participation scale, previously used in studies of elementary and secondary schools (Alutto & Belasco, 1973; Bacharach et al., 1990; Conway, 1976; Johnson, 1991; Mohrman et al., 1978; Taylor & Bogotch, 1994), which produced a measure to compute a decision-making deprivation index for higher education faculty, and 2) a parsimonious measure of organizational effectiveness based upon the Parsonian (1960) synthesis of goal attainment and resource models which includes four dimensions: adaptation, goal attainment, integration, and latency. Additionally, in order to derive an independent measure of organizational effectiveness from the perspective of the academic unit head (based upon Parson's model), a third original measure was developed for use with academic unit heads in this study.

In all, seven primary and four supplemental research questions were framed to develop and adapt measures for this study as well as to guide data analyses. These questions focused on the : 1) empirically-derived nature of the receptivity to change and resistance to change measures; 2) examination of empirical support for the conceptualization of these two constructs as distinctly different variables; 3) identification of statistically significant bivariate, multivariate, and structural linkages and relationships between and among the variables

included in the MCEHE; 4) relationships between selected faculty and academic unit demographic variables and variables included in the MCEHE, and 5) unit of analysis and common method variance concerns.

This study generated useable data from 799 faculty members and 79 academic unit heads representing a total of 103 academic units from 53 of the nation's 59 public, Research I universities during the Spring, 1996. Self-report instruments completed by faculty included measures of receptivity to change, resistance to change, decision-making deprivation, self and organizational efficacy, and organizational effectiveness. Academic unit heads completed the same measures according to how they thought faculty in their academic units would typically respond rather than how they personally perceived the items. Academic unit heads also completed a separate, self-report measure of organizational effectiveness.

A summary of major findings and conclusions from the development of original measures, examination of research questions and exploration of the study's models are provided in the following sections.

Major Findings and Conclusions

A large number of statistical findings from explorations of relationships among the study variables and comparisons of subgroups were previously delineated in this study. Each suggests conclusions that can be made given the purposes of the study and the problems addressed. *Only those findings and conclusions from the study that are considered most important for subsequent discussion are included below.*

Major Finding Number One

Though much of the change literature devoted to the discussion of receptivity to change and resistance to change assumes a complimentary and interchangeable nature between the two variables (i.e. high receptivity = low resistance and vice versa), results of this study provide considerable support that *receptivity to change is not the mirror image of resistance to change.*

- *Conclusion*: Previous change literature which describes these two constructs to be polar opposites suffers from inadequate conceptualization and measurement. These two variables can be both conceptualized and measured as separate components in the process of change.

Major Finding Number Two

Receptivity to change and resistance to change are not as strongly linked, directly or indirectly (through mediating variables) to organizational effectiveness as are organizational structure variables and individual (personal) characteristics of organizational members.

- *Conclusion*: The original model (MCEHE) developed to frame linkages among variables explored in this study is an inadequate conceptualization. Organizational effectiveness in higher education settings is more a function of faculty individual/personal variables related to accomplishing primary organizational roles (e.g., efficacy related to teaching, research and service) than the responses of faculty to proposed innovation potentially affecting superficial and deep-seated organizational and cultural norms and values.

Major Finding Number Three

There is a positive, but only moderately strong relationship between faculty perspectives of organizational effectiveness and the perspectives of academic unit heads.

- *Conclusion*: The meaning of organizational effectiveness, and the factors that contribute to it, is understood differently from the perspective of a member of the faculty as compared to the perspective of an academic unit head.

Major Finding Number Four

The structure of the efficacy construct appears to be different among faculty in higher education settings than among personnel in other work environments.

- *Conclusion*: Past research identifying organizational elements of human efficacy (e.g., Loup, 1994) are not generalizable to organizational settings that differ in terms of work role expectations, organizational structures, cultural factors, patterns of member behavior, clientele served, and other variables that define the work environment and the behavior of organizational members. Thus the conception of human efficacy as a collective construct that is shared among organizational members varies with the personal, managerial and structural variables that define different organizational settings.

Major Finding Number Five

The measures developed and modified for use in this study to assess receptivity to change, resistance to change, decision-making deprivation, efficacy motivation, outcomes efficacy and organizational effectiveness have sufficient validity and reasonable reliability in higher education settings.

- *Conclusion*: These measures are interpretable, useful and available for future research. It is acknowledged, however, that though the psychometric properties of these measures are reasonable, further refinement and development modification would appear to be in order.

Discussion and Implications of Major Findings

The section that follows provides a discussion of the aforementioned major findings and conclusions. Conceptual and theoretical concerns, methodological and design issues, measure development, and implications for future research, theory development and practice are presented.

Receptivity and Resistance to Change: Separate Components in the Change Process

As previously noted, the concept of receptivity and resistance to change is often presented in the change literature as a singular phenomena, with researchers interchangeably using the terms of receptivity and resistance to describe both how one *feels* and how one *acts* in response to innovations being considered, introduced and/or adopted in organizations (e.g., O'Toole, 1995). Not only has the inferred complimentary relationship between these variables led to the assumption that there is a strong, negative correlation between one's thoughts and actions in response to planned organizational change (i.e. a high level of receptivity produces a low level of resistance), the ambiguity in use of these terms has also contributed to a dearth of empirical research involving these constructs.

Results of this study, however, indicate that previous literature is inadequate in the conceptualization of these two change process variables. When receptivity was viewed as an organizational members' internal (cognitive/affective) orientation toward a proposed change

and resistance was viewed as one's external (behavioral) orientation toward the change, the two constructs were only moderately correlated and, furthermore, were differentially linked to other variables in the Model of Change and Effectiveness in Higher Education (MCEHE). In addition, though both variables were found to be multi-dimensional in nature, the complexity and composition of these dimensions in the receptivity to change construct was different from that found in resistance to change.

The finding that receptivity and resistance to change are distinctly different, multi-dimensional variables in the change process has several theoretical implications. First, it reinforces the perception that the process of change in organizations is extremely complex (Fullan & Stiegelbauer, 1991) and that the predictability of the process is therefore imperfect (Stacey, 1992). Thus, one should not assume organizational members will be resistant to a proposed change that a majority do not favor, as the study's findings indicate that one must be cognizant, among other things, of how the proposed change would impact deeply rooted norms and values. For instance, in this study a vast majority of the faculty (71%) indicated that they would not support a proposal to change the time of day that mail is delivered to them (a superficial/behavioral change), yet an even greater number (75%) said that they would not resist such a change. (See Tables E.1 & E.2; Appendix E). Multiple examples such as this from the study data serve to reinforce the sociologically based theory initially espoused by Knight (1921) and later by Cashdan (1990) that posits that members of an organization respond to specific innovations, rather than innovations in general.

Secondly, confirmatory results of Chauvin (1992) and Loup's (1994) findings that teacher receptivity to change in public elementary and secondary schools is multi-dimensional

with cultural/normative and superficial/behavioral elements extends the generalizability of this prior understanding to faculty in higher education settings . Evidence that the resistance to change construct is also multidimensional, with similar (though distinct) cultural/normative and superficial/behavioral elements, has implications for developing conceptual frameworks to guide future research and theory development. Linking these findings with organizational climate and culture research in higher education (Hossler et al., 1988; Masland, 1985; Peterson & Spencer, 1990; Rhoads & Tierney, 1992; Smart & St. John, 1996; Tierney, 1988) would seem to be potentially fruitful particularly given this literature's examination of dominant values, shared beliefs and norms as essential elements in the evaluation of effectiveness, leadership and policy-making.

Personal and Organizational Structure Variables Operate Differently in the Process of Change than Receptivity and Resistance

Further evidence that receptivity to change and resistance to change are separate variables in the process of change is found in an examination of the bivariate linkages of these constructs to organizational effectiveness and other variables included in the Model of Change and Effectiveness in Higher Education (MCEHE) (Figure 3). The magnitude of the correlation between receptivity and resistance and each of the personal and organizational structure constructs varies considerably. However, neither receptivity nor resistance are linked as strongly to either measure of organizational effectiveness as are the other variables. This finding is contrary to the direct linkage thought to exist between receptivity/resistance to change and organizational effectiveness in the traditional change model (Figure 1).

Likewise, an examination of the structural equation model (SEM) (Figure 4) calls into question the basic assumption that originated the development of the MCEHE (Figure 2) that self and organizational efficacy and decision-making deprivation would mediate linkages between receptivity and resistance to change and organizational effectiveness. First, the statistical incongruity between receptivity to change and the rest of the MCEHE variables called for the deletion of receptivity to change from the SEM. Secondly, though resistance to change was included in the SEM (further evidence that resistance and receptivity do not share a complimentary relationship), the model provides no indication that the personal and organizational structure variables investigated mediate the linkage of resistance to organizational effectiveness.

The role, then, that receptivity to change and resistance to change have in the attainment of organizational effectiveness seems to be less direct (and perhaps less important) than initially perceived. These internal (cognitive/affective) and external (behavioral) responses that specific innovations engender appear to operate somewhat differently than other variables in the organizational change process. Their relationship to organizational effectiveness as measured by Mott's (1972) criteria (adaptability, flexibility, quantity and quality of product, and efficiency) can perhaps best be described as more reactive than proactive. For example, as an initial response to the introduction of a specific innovation, receptivity and resistance can certainly be expected to be immediate and, in many cases, quite visible. Yet, when more direct linkages of these cognitive and behavioral reactions on an organization's level of effectiveness are explored they are not nearly as strongly linked as other variables in the MCEHE. In other words, variables seen as enduring, endemic characteristics of

organizational members, along with variables affected by the organization's structure, appear to have a greater cumulative, sustaining relationship to organizational effectiveness than either receptivity or resistance to change. Thus in this study, decision-making deprivation and efficacy are two such variables that seem to have relatively strong linkages to an organization's level of effectiveness.

Decision deprivation's negative, moderate correlation with organizational effectiveness, from the perspective of faculty, is particularly unique since a moderately strong, positive, bivariate correlation with receptivity to change was also evidenced. These findings suggest faculty with higher levels of decision-making deprivation (individual's who desire more participation in decision making than they actual have) are inclined to be receptive to change and are further apt to perceive their academic unit as having a low level of effectiveness. Conversely, a faculty member for which desired and actual levels of participation in decision-making are harmonious is apt to be unreceptive to change and prone to view the academic unit as effective.

Efficacy (both self and organizational) was initially believed to mediate linkages between receptivity and resistance to change and organizational effectiveness (Figure 2). Subsequent findings, however, revealed that efficacy was not importantly related to the cognitive/affective or behavioral response to innovation. Rather, a strong, more direct link between efficacy and organizational effectiveness was evidenced.

The findings also failed to clearly differentiate personal (self) and organizational efficacy. Instead, the results suggested that it is more useful to differentiate a global efficacy construct in terms of efficacy motivation and outcomes efficacy. These faculty, personal efficacy

variables were clearly more closely linked to the effectiveness of academic units than faculty reports of receptivity and resistance to change. Thus, what seems important to achieving organizational effectiveness in higher education academic units are the personal beliefs that faculty have about faculty motivation and persistence to overcome barriers to goal attainment and the attainment of outcomes relative to traditional faculty roles of teaching, research and service.

Organizational Effectiveness: Understood Differently from the Perspective of a Member of the Faculty as Compared to the Perspective of an Academic Unit Head

Several findings substantiate the conclusion that the meaning of organizational effectiveness, and the factors that contribute to it, is understood differently from the perspective of a member of the faculty as compared to the perspective of an academic unit head. First, the correlation between the academic unit head scored HEIDE and the faculty scored IPOE is only moderately strong. A one-to-one relationship that would indicate congruence in faculty and academic unit head perception was not evidenced. Secondly, the simple correlations between faculty perceptions of the study variables and the anticipated faculty response by academic unit heads ranged from weak to moderately strong. Again, the absence of a strong, positive relationship between these variables suggests a dissimilar appreciation, understanding or assessment of these constructs by faculty as compared to academic unit heads.

Lastly, attempts to replicate the structural equations model (Figure 4), by replacing faculty responses on the IPOE as the dependent variable with academic unit responses on the HEIDE, was unsuccessful. This reflects an inconsistency in the patterns of relationships

between the study variables as perceived by faculty and academic unit heads. Given the correlational findings discussed above, this inconsistency is not surprising. The HEIDE and IPOE are not redundant measures of organizational effectiveness, but instead reflect differences in interests and beliefs in how this construct is defined in relationship to other variables.

These results suggest that faculty and academic unit head perspectives about effectiveness are defined, in part, by differences in socialization. For instance, it seems that a faculty member without administrative experience will be less likely than an academic unit head to understand the need to be responsive to forces external to the academic unit. The administrator, for example, would typically be more likely to perceive effectiveness as highly related to the generation of student credit hours and other budgetary matters deemed important to external constituencies. Faculty on the other hand, are more apt to perceive effectiveness as highly related to personal, internal forces such as the quantity and quality of scholarly productivity.

This difference in socialization may also impact the perception of other variables with regard to the relationship these constructs have to effectiveness. For example, correlational data show that an academic unit head is not likely to perceive faculty decision-making deprivation as negatively related to the unit's level of effectiveness; yet, faculty members' perceptions of organizational effectiveness are negatively correlated with decision deprivation.

Factors that Frame the Organizational Context in which People Work Serve to Differentiate and Define their Perceptions of Self and Organizational Efficacy

The original decision to include efficacy variables in the Model of Change and Effectiveness in Higher Education (MCEHE) was made for a number of reasons: 1) efficacy is a theoretically rich construct that has been used in a number of contextual settings to help explain interactions between individuals and their environments (Ellett, 1995; Loup, 1994; Pajares, in-press b), 2) efficacy helps to explain the way in which learning occurs in a social environment and the development of "learning organizations" has been identified in change literature as essential to achieving greater effectiveness (Fullan, 1993), and 3) replication of Loup's (1994) finding that the efficacy construct can not only be conceptually and empirically verified at the individual ("Me") level, but also at the "Thee" level (all members of an organization) and the "We" level (a merger of the "me" and "thee" responses in view of repeated failures to accomplish organizational goals) was sought in a higher education setting.

Results of the factor analyses for both parts of the Faculty Self and Organizational Efficacy Assessment (FSOEA) failed, however, to replicate Loup's findings. Although elements of the "Me" and "Thee" dimensions were evident in the results from both Part I (efficacy motivation) and Part II (outcomes efficacy) of the FSOEA, the collective "We" dimension was not apparent. These findings generated in public Research I universities, coupled with recent findings of Ellett (1995) among social work professionals (which also failed to replicate the "Me", "We" and "Thee" dimensions with the same clarity identified by Loup [1994]) allows for speculation concerning factors in an organizational member's work setting that contribute to the development of personal and organizational efficacy.

For example, the public elementary and secondary school context in which Loup (1994) determined there to be three levels of the efficacy construct. One might assume that teachers in this work environment would be likely to maintain a similar daily regimen to one another, regardless of the grade level or subject(s) they teach. Arriving at work at approximately the same time as each other, elementary and secondary teachers are apt to perform their primary function (teaching) in classrooms of similar shape and size with somewhat standard routinization, share a common lunch break (where interaction between teachers is commonplace), teach students from common backgrounds and roughly comparable socioeconomic levels, and then leave en masse. Faculty meetings are held regularly for all teachers in the school, large gradations in salary range are not commonplace, a single administrator is typically responsible for all site based decisions, and the community in which the school is located is likely to share a common perception as to the quality of education being provided.

In contrast, the many common threads that run through the daily experience of elementary and secondary teachers are far less apt to occur in public, Research I university academic unit settings. Faculty members are likely to arrive at, and leave from, work at different times on different days. A comparatively small portion of time is spent in a classroom teaching, while the remainder of a faculty member's time on campus is likely to be spent in an unshared office, performing research and service responsibilities. Both student body and faculty are likely to be quite diverse in make-up, formal meetings of faculty are likely sporadic (as well as departmentalized), disparate salary structures are expected (between ranks as well as between departments), a multi-level bureaucracy determines the

allocation of resources, and the local community is likely to have varying perceptions as to the quality of the product being produced by the university.

By comparing these factors that frame the organizational context in which elementary and secondary teachers and higher education faculty work, one can logically conclude that a less varied and predictable culture and climate in one's work setting is more conducive to the development of a collective sense of efficacy (*We*) among the organizations's members. A singular purpose, a common regimen, a homogeneous constituency and a uniform physical structure may well contribute to the cultivation of solidarity among elementary and secondary teachers that in turn produces a collective sense of responsibility in the face of repeated failures to accomplish organizational goals. This structure of personal and organizational efficacy may not hold in other organizational settings. Indeed, the relationships among the three identifiable elements of efficacy (*Me*, *We* and *Thee*) have been found as somewhat different in other work contexts characterized by the different roles and routines of the organization's members (Ellett, 1995; Loup, Clarke & Ellett, 1997).

As previously noted, it is interesting that the perceptions higher education faculty have regarding both the outcome efficacy and the efficacy motivation of "other faculty" in their academic unit are the variable subscales with the strongest, positive correlation to organizational effectiveness (See Table 4.20). Though the *We* dimension of efficacy identified by Loup (1994) did not materialize in the higher education settings explored in this study, this is still a clear indication that higher education faculty perceive their academic unit's organizational effectiveness as inexorably linked to the efficaciousness of their fellow faculty.

Study Measures are Interpretable, Useful and Available for Future Research

The development of original measures, and the adaptation of others for use in higher education settings, played a central role in the completion of this study. The following section not only discusses findings relative to the development/adaptation, validity, and reliability of the study's measures, but also describes how further refinement and modification might aid future research.

Inventory of Receptivity to Change in Higher Education (IRCHE)

Initially developed as a 71-item measure to examine faculty receptivity to change in higher education settings (Clarke, Ellett & Rugutt, 1995), the IRCHE was substantially revised for use in this study. This modification was intended to shorten the measure, yet retain it's two salient, reliable dimensions: cultural/normative change (CNC) and superficial/behavioral change (SBC). The redesign was also undertaken to assure that the IRCHE items truly reflected CNC and SBC dimensions and were not merely a result of similarly worded items (e.g., those that reflected innovations that "required" adherence and those that gave "sole responsibility/authority"to faculty). The result was a 20-item measure (See Appendix A).

As presented in Chapter 4, results from this study replicate the previous finding (Clarke, Ellett & Rugutt, 1995) that receptivity to change in higher education faculty is multi-dimensional, with both CNC and SBC elements identified. In this study, however, the cultural/normative dimension was found to be more complex, being identified in two subscales - one with an academic focus (concepts central to a faculty member's academic identity - tenure, admission standards, grading policies, etc.) and one regarding procedural authority

(suggestions that administrative oversight be given to faculty for policies affecting their core values and beliefs).

This multi-dimensional conception of faculty receptivity to change is compatible with sociologically linked theories that posit the notion members of an organization respond to specific innovations, not innovations in general (Knight, 1921; Cashdan, 1990). It also substantiates the findings of other recent studies which have conceptualized receptivity to change in non-higher education settings as having more that one dimension (Chauvin, 1992; Loup, 1994). Furthermore, the IRCHE, as a measure that renders a more complex view of the receptivity to change construct, seems supported by recent literature that depicts organizational change as a process riddled with dilemma, ambivalence and paradox (Fullan & Stiegelbauer, 1991) requiring a new mind set (Fullan, 1993; Senge, 1990) expert at dealing with the complexity, dynaminism and unpredictability associated with it (Stacey, 1992).

Modification of the IRCHE resulted in improvement in some of the measure's psychometric properties. For example, the revised version's three-factor solution accounted for a greater amount of variance than the two-factor solution of the original measure (each solution having been determined to be the most reasonable multiple factor representation of the data in their respective studies). Other psychometric properties, however, were diminished, as evidenced by the comparatively low alpha reliability coefficients for the subscales. As a result, further refinement of the IRCHE would appear to be in order prior to use in future research efforts.

It is speculated that any such effort should include additional review of the content and wording of the items based on a number of the comments faculty respondents made in

reference to the IRCHE. For example, some SBC items generated a disproportionate number of non-responses and apathetic remarks (e.g., "Who cares"). Though very non-typical, this perceived lack of relevancy by some respondents even evoked a somewhat hostile reaction (e.g., "I couldn't care less... I'd be pissed we were wasting faculty time on this issue"). Other suggestions, for increasing the clarity of items, include elimination of abbreviations (i.e. "CPR"), specification of "from what to what" when a change is inferred (i.e. "Change the procedures for selecting departmental support staff"), and making certain policy proposals are universal to all institutions (e.g., one respondent indicated that their school offered no athletic scholarships).

Faculty Resistance to Change Inventory (FRCI)

This measure was designed specifically for this study to measure the degree to which a higher education faculty member will oppose the implementation of a policy once adoption of the policy becomes highly likely. As discussed in Chapter 3, development of a scale that would accurately reflect a range of possible responses to planned organizational change included input from faculty members from multiple disciplines, and identified actions, both overt and covert, that one embraces to stop, delay or otherwise undermine the proposed innovation or actual implementation of it. These efforts resulted in a 5-item resistance scale that measured the degree of resistance (from no resistance to strong resistance) that faculty members would take in response to the *highly likely* implementation of policies proposed in the 20-item IRCHE.

As with the IRCHE's measurement of receptivity, this measure of resistance found the construct to be more complex than much of the previous literature has described, with

response to innovation containing both superficial/behavioral and cultural/normative elements. This finding further supports the notion of change as a multifarious process (Ayers, 1988) as well as substantiates the role of organizational culture on influencing behavior in higher education (Lindquist, 1978; Rhoads & Tierney, 1992; Smart & St. John, 1996).

In addition to the SBC and CNC components of resistance, however, the construct was also found to have subscales linked to increasing authority and to change which is perceived as *required.* Respondent perception as to whether or not a proposed change *is required* was identified as possibly introducing bias toward certain items during the initial development of the IRCHE (Clarke, Ellett & Rugutt, 1995). The replication of this finding in this nationwide study (despite the removal of *required* inferences from most modified IRCHE and FRCI items) lends support to the contention that resistance can be stimulated by forcing an individual to change or to adopt an innovation (Spicer, 1952). Further affirmation of this dimension of the resistance to change construct is needed, but the possibility that behavioral response may not only be affected by *what* is proposed, but rather by the *inferences of fixed policy or mandated innovation* has obvious ramifications for higher education administrators.

Though the psychometric properties of this measure were found to be reasonable, it would appear that additional refinement is needed prior to further utilization. One aspect of possible revision is a clarification of the measure's directions as several respondents expressed confusion concerning the wording of the instructions on this section of the faculty instrument packet.

Apparently contributing to this confusion was the resistance rating scale itself. For example, respondent comments indicated that the option "I would not resist the policy in any

way" could be viewed both as a covert act of resistance to a policy one opposed and/or as a non-behavioral indication that one was in support of the policy. Other comments stipulated that the rating scale did not allow adequate expression for ones views and more than one respondent suggested that the scale include speaking up at formal faculty meetings (such as the Faculty Senate) as a realistic resistance option.

Faculty Self and Organizational Efficacy Assessment - Parts I & II (FSOEA I&II)

The FSOEA was developed specifically for this study based upon the prior work of Loup (1994) and Ellett (1995). Part I was used to assess faculty beliefs about energy and persistence to accomplish goals, respond to obstacles/barriers, and to persist in the face of repeated failure. Part II was used to assess faculty beliefs about effecting organizational outcomes related to teaching (student learning), research (scholarship) and service. In all, four kinds of efficacy data were collected by using the FSOEA Parts I and II: 1) individual faculty member efficacy expectation; 2) organizational (collective faculty) efficacy expectation; 3) individual faculty member outcome expectation; and 4) organizational outcome expectation.

Strong alpha reliability coefficients computed for the one-factor solution and multiple factor subscales on Part I, and the reasonably strong coefficients similarly computed for Part II support the FSOEA as a reliable measure useful in future higher education research. As with the other measures developed or modified for this study, however, some refinement might be considered to improve item clarity. For example, Key Question 3 of Part I (To what extent would failure to accomplish this goal result in increased efforts to accomplish this goal in the future) elicited several comments from respondents that conveyed confusion (e.g., "bizarre") and uncertainty as to how to answer (e.g., "This would depend on the severity or

level of the failure. If the failure was major, I believe my colleagues and I would make lots of effort.").

Consideration might also be made to combine the two parts of the FSOEA into a singular measure. The concern that some researchers have that the distinction between efficacy motivation and outcomes efficacy is ambiguous (Eastman & Marzillier, 1984; Kazdin, 1978) prompts this suggestion. Contending that efficacy motivation judgements are dependent on, and commingled with, perceptions of the outcomes anticipated by the actions, these researchers argue that the distinction Bandura (1978b) made between the two constructs is not warranted (Pajares, in-press b).

One other modification to the FSOEA that should be considered involves the ongoing concern by Bandura (1986) that broad, general self-efficacy measures are apt to recast self-efficacy beliefs into a generalized personality trait instead of the context-specific perceptions that Bandura suggests they represent (Pajares, in-press b). Rather than the general notion of teaching, research and service that is currently used in the FSOEA, a redesign might incorporate specific examples of each of these primary roles of faculty to improve the predictive relevance of the measure.

Faculty Decision-making Deprivation Scale (FDDS):

This instrument is a version of the School Decisional Participation Scale (SDPS) (Alutto & Belasco, 1973) which was significantly modified and used to calculate a decision deprivation index (Johnson & Ellett, 1995) which reflected the difference between the desired and actual levels of university decision-making power a faculty member possesses. The

greater the difference between desired and actual levels of decision making, the greater one's level of deprivation.

The finding that decision deprivation among higher education faculty is two-dimensional echos previous research among elementary and secondary teachers which reported the multi-dimensionality of participatory decision-making (Bacharach et al., 1990; Johnson, 1991; Mohrman et al., 1978; Taylor & Bogotch, 1994). It is also consistent with results derived previously from use of a decision deprivation index (Johnson & Ellett, 1995) which identified multiple dimensions related to organizational and personal concerns. The two dimensions reported in this study differentiate between decisions made within an academic unit that primarily affect organizational processes and those that primarily impact the individual faculty member.

The reliability coefficients reported for the two subscales were reasonable, however future use of this instrument would likely benefit from clarification in the wording and content of certain items. For example, each item should be reviewed to assure that only a singular decision is presented. Several respondents noted that *their course load* and the *classes that they teach* are distinctly different, incorporating separate decision processes. Further clarification could be also achieved by assuring that: 1) each item is applicable to all faculty (e.g., numerous respondents indicated that they are not assigned students for advisement), and 2) differentiation between undergraduate and graduate students is made when appropriate (i.e. student admission standards). It is also suggested that the term *required* be omitted from all items (i.e. the amount of service I am *required* to perform) thus negating the need to interpret

results as possibly reflecting a response to mandated/fixed policy rather than specific item content.

Higher Education Index of Departmental Effectiveness (HEIDE):

Academic unit head perceptions of departmental organizational effectiveness were operationalized using the HEIDE which was developed specifically for this study. It is derived from Parson's (1960) conceptual framework which contends that in order for a social system to grow and develop, four organizational functions are essential: adaptation, goal attainment, integration and latency. Like the IPOE, this measure employs Mott's (1972) concept of utilizing multiple organizational outcomes to determine effectiveness. Specifically, the HEIDE measured the quantity and quality of the product, efficiency of production and the flexibility and adaptability of one's academic unit (as related to the effectiveness with which the roles of research, service and teaching are carried out) from the perception of the academic unit head.

The strong, alpha reliability coefficients computed for this 15-item measure suggest it can be used with confidence in future organizational effectiveness research in higher education settings. This seems particularly so given the unique problems associated with specifying goals and outcomes in institutions of higher education (Warner & Havens, 1968), a general questioning of the applicability of the concept of organizational effectiveness for colleges and universities (Cohen & March, 1974; Weick, 1976) and a general lack of empirical studies of effectiveness in post secondary settings.

Additional Methodological and Research Design Issues

Several other methodological and research design issues emerged that should perhaps be addressed in future research studies. For instance, concern that the study's results are influenced by common data collection methods, could be mitigated by an alternative study design which incorporated independent methods to measure each of the variables. Though the HEIDE served as an independent measure of organizational effectiveness, the remainder of the study variables were measured solely by faculty self-report measures. As noted previously, however, the wide range in variation reported among *within* academic unit correlations of selected study variables suggest that the faculty self report data in this study were generally dependable and lend credence to the contention that common method variance issues and concerns in this study are not of major concern.

These quantitative findings are similar to those reported in a number of other recent studies which used singular teacher perception data collection methodologies to explore organizational effectiveness and related variables in elementary and secondary school settings (Claudet, 1993, Johnson, 1991; Logan, 1990; Loup, 1994). Replication of these results in higher education settings adds to the generalizability of the contention that comparisons made using schools as the unit of analysis may mask a number of important differences within schools (Ellett, et al., 1994).

The response rate from faculty is another design related issue having implications for future research. Academic disciplines were selected because faculty within these units (Political Science, Psychology, Sociology, and Education) are typically more experienced in survey research methodologies than are faculty from other academic disciplines (e.g., biology,

physics, English, etc.). It was believed that this sampling design would enhance the overall survey return rate. The 30% response rate for faculty was somewhat disappointing, particularly when compared to the response rate of academic unit heads (77%).

A number of factors are believed to have contributed to the unwillingness of some faculty to participate in the study. For example, the length of the survey (four legal size pages/125 items) was deemed excessive by some who complained that their efforts to complete the measures took much longer than the estimated (piloted) 15-20 minutes. The tightly-spaced format was also cited by a number of respondents as causing frustration (e.g., "Are my eyes going on me? Sometimes hard to tell which answer line goes to which statement."). A few respondents also made reference to the frustration caused by the size of the return envelope (e.g., "Provide an envelope into which this packet will more easily fit!").

Response to follow up e-mail reminders to academic unit heads shed light on a number of other reasons why faculty response was less than desired. One indicated the arrival of the instrument packets coincided with his institution's spring break while another cited an impending accreditation visit as occupying the time of most of his faculty. In one case the academic unit head made a decision not to distribute the packets at all. He wrote, "We are going through a very difficult period, with many additional demands on some, and little cooperation from others. I am unwilling to impose additional burden on some and expect little from the others." This anticipated lack of cooperation was not isolated as evidenced from the academic unit head who stated, "I have distributed the reminder letter. My

colleagues are notorious about filling out forms. Most refuse on principle! It makes my job as chair even more fun than usual. So I wouldn't count on too many more forms."

The design of the instrument packet and the distribution technique(s) deployed by academic unit heads arguably had an adverse impact on the rate of return from faculty members. However, it became apparent during the data collection process that the item content of the measures, coupled with anonymity concerns engendered by the precoding of the institution/department, provided the greatest level of concern from prospective respondents. One academic unit head wrote, "I have received and distributed your survey. Faculty have responded that because the institution is precoded on the survey, they are hesitant to reply. In fact, some have flatly refused for that reason. With all of the scrutiny of public universities, we feel very uneasy about anything which might in some form become public." Another faculty member echoed this concern by writing, "Before I can respond... I need to know more about how the data may be used. One particular question I have concerns the anonymity of the institutions. Do you have any intention to publish institution to institution comparisons? I would complete the 'Q' if and only if I am assured in writing that only regional or national summary data will be reported." Still another faculty member wrote, " I received and completed your survey today -- but I have some concerns... because of the demographic questions... There is no other faculty member in my department who could answer the same way as I do to the combination of questions (and) I don't see how you could guarantee my anonymity..."

This indication of apprehension and anxiety may have been heightened by the present level of scrutiny being placed upon public universities. However, it is also likely that the

higher education community simply remains skeptical and defensive toward the concept of institutional effectiveness (Bowen, 1973; Peterson, 1975). The general questioning of the applicability of the concept of organizational effectiveness for colleges and universities (Cohen & March, 1974; Weick, 1976), which has previously hampered the measurement of effectiveness in these institutions, apparently remains a factor that future researchers must contend.

Additional Implications for Theory, Practice and Future Research

This study produced a large number of findings and conclusions with the major ones' having previously been individually summarized. In thinking about this study as a whole, however, there are additional implications related to conceptual and theoretical concerns, methodological and design issues, future research, and practice. This final section addresses these implications.

Implications Related to Conceptual and Theoretical Concerns

The results and conclusions of this study inform theories in a variety of ways. For example, given the findings that receptivity and resistance to change are not strongly linked to organizational effectiveness, is it sensical to even develop organizational effectiveness models as a means of generating a better understanding of change? Reviews of the extant literatures in change and change processes in organizations, and particularly in the study of educational institutions, suggest that there is no existing, comprehensive theory of change. Much has recently evolved through research about the nature of change, and many observations and ideas about change have been proffered (Fullan, 1993). There are, for example, studies of how organizations and individuals adapt to *innovations* (Hall & Hord,

1984; Fullan, 1993). However, if change is to be understood in view of characteristics of individuals *(receptivity and resistance)* (as conceptualized and measured in this study), then future research studies are needed to further examine the nature of these processes and social/organizational variables external to the individual affecting this process. Such studies can lead to a more rich understanding of change and to the development of nomological networks (Cronbach & Meehl, 1955) essential to the development of change theories.

Of concern in this study were explorations of linkages among faculty personal and organizational variables and organizational effectiveness. Considered collectively, the results suggest that change (receptivity and resistance) is best understood in view of linkages to factors that are brought about in response to innovations. Organizational effectiveness on the other hand, may not relate to change processes experienced by organizational members. Thus, organizational effectiveness might be better understood in terms of organizational members' efficacy (beliefs about the congruence between personal motivation and persistence and expectancies to accomplish organizational goals), than organizational members' responses to innovations. The findings of this study suggest weak linkages between faculty responses to suggested innovations and personal variables shown to be related to organizational effectiveness Thus, change theories, as they develop, will have to accommodate the idea that receptivity and resistance to change are reactive responses of individuals to suggested innovations. On the other hand, theories of organizational effectiveness will have to focus on personal characteristics of organizational members that more directly relate to the accomplishment of organizational goals. Thus, the linkage between organizational members' reactions to innovations is only indirectly and weakly linked to personal variables (e.g.,

efficacy) that are known to be related to organizational productivity, adaptability, flexabiltiy, efficiency, and so on.

An extrication of effectiveness from traditional change models would support the call for a new mind set for change, a mind set that contends that members of organizations should consider change as a normal part of the work environment, not something that is specific only to innovation (Fullan, 1993; Senge, 1990; Stacey, 1992). Such extrication would also justify further investigation of organizational effectiveness in a variety of contextual settings.

The importance of context in understanding both change processes and theories related to organizational effectiveness is further emphasized by numerous findings of this study as contextual implications played a significant role in determining levels of receptivity, resistance, efficacy and decision deprivation. Perhaps just as importantly, the structural context of public Research I universities appears to have impacted the study's findings in ways that might prevent replication if the study were repeated in different types or levels of universities (or in less complex organizations). For example, the amount and types of pressure placed upon academic units and faculty in public Research I universities might not be found in private institutions , community colleges, etc. The role, scope and mission of an institution as well as it's overall size, diversity of students and faculty, number of colleges and academic programs, research agenda, governance structure etc., are all contextual factors that are likely to affect the relationships of organizational effectiveness and the other study variables.

Theory development related to the study's independent variables (receptivity, resistance, efficacy and decision deprivation) has not only been enhanced by the aforementioned contextual implications, but also by the affirmation/discovery of the multi-dimensional nature

of these constructs. For example, all three factors earlier identified as hindering the development of an adequate theory of receptivity were addressed as a result of the confirmation that receptivity contains cultural/normative and superficial/behavioral dimensions. Models were developed that explicated the relationship of receptivity to other variables in the change process. The contention that people are inherently unreceptive to change was found not to hold in higher education academic units, and conceptual and empirical ambiguities between receptivity and resistance were clarified.

Still, further clarification of these terms appears to be warranted now that receptivity to change and resistance to change were found in this study to be distinct, only moderately related constructs. For instance, it seems appropriate for future research to address the issue of *receptive behavior* (observable action by individuals in support of an innovation). Is this a construct, like it's resistant behavior counterpart that can be conceptually and methodologically operationalized? If so, what personal and behavioral variables would lend themselves to receptive behavior? What contexts are apt to positively affect such behavior? Is there a direct linkage between receptive behavior and organizational effectiveness?

The determination in higher education settings that decision deprivation is not a unitary construct that covers all possible decisions in complex organizations also spawns additional theoretical concerns. It is not enough to recognize that one is experiencing deprivation. Deprivation of *what* needs to be determined. The contextual aspect of the decision-making process becomes paramount to the understanding of this personal variable which is impacted by organizational structure. This study clearly differentiates between decisions that primarily affect the individual faculty member and decisions that primarily affect organizational

processes. One wonders if this finding can be replicated in other types of organizations in which members have less autonomy than tenured faculty in public, Research I institutions.

It seems advisable that further theory development of decision-making deprivation also address the concern that the difference between actual and desired amounts of participation in decision making may not indicate a level of deprivation at all. For instance, if an individual has greater actual than desired levels of participation in decision-making, this could be construed as a *surplus* (saturation) rather than a deprivation. Interestingly, in this study and in the previous research which explored this variable (Johnson & Ellett, 1995; Taylor & Bogotch, 1994), all respondents were found to express less actual than desired levels of participation in decision making.

Implications Related to Practice

Though faculty members can glean beneficial advice from the study's findings, practical implications resulting from this study are of particular relevance to higher education academic unit heads who wish to improve their unit's level of organizational effectiveness. Following are suggestions for their use:

- Clearly articulate organizational goals to faculty. Communicate regularly with faculty in order to decrease levels of misperception.
- Consider faculty as individuals, recognizing that each is apt to desire a different level of participation in decision-making processes. Recall that the greatest amounts of deprivation in faculty concern decisions affecting organizational processes (e.g., budget matters, allocation of resources).

- Develop efficacy among faculty. Provide opportunities and resources to facilitate individual faculty success which, in turn, is apt to lead to collective success. As such, encourage the mentoring of younger faculty by experienced faculty, plan professional development to address publication and grant writing concerns as well as classroom skills and, acquire sufficient resources to support teaching, research and service efforts (e.g., travel funds, clerical/student aid assistance, graduate assistantships, etc.).
- Hire individuals with evidence of efficacious behavior.
- Do not assume that an absence of resistance to the introduction of an innovation means that faculty are receptive to it.
- Remember that receptivity to change and resistance to change are distinct responses to the introduction of specific innovations. Faculty are not inherently opposed to change. Likewise, remember that receptivity and resistance to change are only indirectly linked to the effectiveness of the academic unit. Thus time and effort spent addressing these responses might be better spent developing faculty efficacy.
- Faculty are prone to resist innovation that is perceived to be "required". Select appropriate terminology and presentation for the introduction of new ideas and policies to ensure an accurate response to the innovation. Provide as clear a rationale as possible for any new policy mandate to which employees must adhere.

Implications Related to Future Research

Many suggestions for future research have previously been presented and discussed as a result of findings generated by this study. The following suggestions supplement these discussions:

- Consider alternate methodologies to continue the examination of the study variables. This study explored response to the introduction of innovation(s) into the organization as a means of studying the change process. The study, however, did not examine change *in process*. Faculty and academic units were not evaluated over time. Thus, in order to discern how time and other contextual factors might alter the linkages between the variables, case studies seem in order. Institutions or academic units in transition would provide unique possibilities for exploring contextual concerns. For instance, a university undergoing a metamorphosis related to growth patterns, governance structure, leadership, admission standards, etc. would be particularly interesting for this type of qualitative inquiry.
- Case study methodology might also be employed as a means to extrapolate data from outlier academic units identified in this study. Such efforts would be fruitful as sources of information regarding potential hypotheses (additional or rival) that might be generated, but that are not clearly evident from the general quantitative relationships reported in this study.
- Replicate this study in different levels and types of post secondary institutions (e.g., proprietary, two-year, private, etc.) to assess the impact of culture, climate, governance structure and other contextual factors on the study variables.

Chapter Summary

Following a general overview, Chapter 5 presented a summary and discussion of the major findings and conclusions of the study. Discussion included various theoretical, practical and methodological implications in addition to addressing suggestions for future research.

Dissertation Summary

This document describes a study of faculty and academic unit head perspectives of change processes, personal and organizational variables and organizational effectiveness in higher education settings. A conceptual framework was developed to guide the design of the study. The study included the development of new, original measures of most of the constructs explored and pertinent analyses of data to establish their psychometric properties.

Essential to the study was understanding the relationship in higher education settings of faculty and academic unit head views of organizational effectiveness, involvement in decision making, personal and organizational efficacies in attaining traditional higher education goals pertaining to teaching, research and service, and receptivity and resistance to suggested innovations (new ideas) reflected in cultural/normative and less deep-seated superficial/behavioral concerns. The study was conducted in public Research I universities in the United States in departments representing the social sciences (psychology, sociology, political science) and academic units in colleges of education.

Major findings of the study showed that: (1) receptivity and resistance to change are not to be understood as mirror images of one another (as previously depicted in the extant literature); (2) faculty efficacy relative to accomplishing organizational goals pertaining to teaching, research and service is more directly linked to organizational effectiveness than are other faculty personal and organizational variables (e.g., receptivity and resistance to suggested innovations and involvement in decision making); (3) faculty and academic unit heads have varying perspectives about organizational effectiveness in higher education; and (4) meaningful relationships among the study variables were empirically demonstrated from

both the faculty and academic unit head perspectives. However, structural relationships among the variables evidenced in faculty perspectives failed to replicate from the perspectives of academic unit heads.

The results of the study were synthesized in terms of a set of major findings and conclusions and these in turn were discussed in view of implications for future theory and research on change processes and organizational effectiveness, and implications for practice.

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APPENDIX A:

UNIVERSITY PARTICIPATION AND ACADEMIC UNIT RESPONSE RATE

Table A.1

Public Research Universities I - By State

Alabama
*University of Alabama at Birmingham

Arizona
*Arizona State University
*University of Arizona

California
University of California at Berkeley
*University of California at Davis
*University of California at Irvine
*University of California at Los Angeles
*University of California at San Diego
University of California at San Francisco
*University of California at Santa Barbara

Colorado
*Colorado State University
University of Colorado at Boulder

Connecticut
*University of Connecticut

Florida
*Florida State University
*University of Florida

Georgia
Georgia Institute of Technology
*University of Georgia

Hawaii
*University of Hawaii at Manoa

Illinois
*University of Illinois at Chicago
*University of Illinois at Urbana-Champaign

Indiana
*Indiana University of Bloomington
*Purdue University, Main Campus

Iowa
*Iowa State University
*University of Iowa

Kansas
*University of Kansas

Kentucky
*University of Kentucky

Louisiana
*Louisiana State University and A&M College

Maryland
University of Maryland College Park

Massachusetts
*University of Massachusetts at Amherst

Michigan
*Michigan State University
*University of Michigan at Ann Arbor
*Wayne State University

Minnesota
*University of Minnesota at Twin Cities

Missouri
*University of Missouri at Columbia

Nebraska
*University of Nebraska at Lincoln

(table continues)

New Jersey
*Rutgers, The State University of New Jersey, New Brunswick Campus

New Mexico
*New Mexico State University, Main Campus
*University of New Mexico, Main Campus

New York
*State University of New York at Buffalo
*State University of New York at Stony Brook

North Carolina
*North Carolina State University
*University of North Carolina at Chapel Hill

Ohio
Ohio State University, Main Campus
*University of Cincinnati, Main Campus

Oregon
*Oregon State University

Pennsylvania
*Pennsylvania State University
*Temple University
*University of Pittsburgh

Tennessee
*University of Tennessee at Knoxville

Texas
*Texas A&M University
*University of Texas at Austin

Utah
*University of Utah
*Utah State University

Virginia
*University of Virginia
*Virginia Commonwealth University
*Virginia Polytechnic Institute

Washington
*University of Washington

West Virginia
*West Virginia University

Wisconsin
*University of Wisconsin at Madison

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* Denotes Participation in Study

Table A.2

Participation Response Rates By Academic Unit

Institution	Academic Unit	No. of Faculty	Useable Responses	Response Rate (%)
1	Psychology	50	17	34
1	Sociology	21	13	62
1	C & I	55	4	7
2	Sociology	15	7	47
2	School of Education	30	10	33
3	Political Science	22	8	36
3	Psychology	36	9	25
3	Sociology	22	4	18
4	C & I	45	9	20
5	Political Science	20	5	25
5	Psychology	26	11	42
5	C & I	35	12	34
6	Sociology	22	12	55
6	C & I	43	5	12
6	EDAF	21	13	62
7	Psychology	45	16	36
8	Political Science	10	5	50
8	Psychology	14	5	36
8	Sociology	13	6	46
8	C & I	18	4	22
9	Political Science	20	2	10
9	Sociology	33	6	18
10	Psychology	11	2	18
10	School of Education	21	6	29
11	Sociology	25	9	36
12	Political Science	26	6	23
12	Sociology & Anthropology	33	14	42
12	C & I	59	18	31
12	Educational Studies	35	14	40
13	Sociology	31	10	32
14	Political Science	18	5	28
14	Ed Org, Admin & PS	18	8	44
15	Center for Excel & Innova	10	5	50

(table continues)

Institution	Academic Unit	No. of Faculty	Useable Responses	Response Rate (%)
16	Sociology	20	5	25
16	Educational Leadership	10	2	20
17	Sociology	32	6	19
17	Educational Administration	14	6	43
18	Sociology	11	4	36
19	Psychology	40	25	63
20	Psychology	28	9	32
21	Education	17	5	29
22	Psychology	60	10	17
23	Political Science	28	3	11
24	Political Science	16	5	31
24	Psychology	22	8	36
24	Sociology	26	8	31
24	Education	32	5	16
25	Sociology	13	6	46
26	Political Science	30	14	47
26	Educational Leadership	17	3	18
27	Political Science	26	11	42
27	Sociology	25	6	24
27	Educational Leadership	10	3	30
28	Psychology	40	9	23
28	Sociology	17	8	47
28	Educational Leadership	15	2	13
29	Sociology	20	5	25
30	Sociology	20	5	25
30	Area of PS in Education	12	4	33
31	Political Science	32	7	22
31	C & I	28	5	18
32	Div. of Planning Policy/LS	15	6	40
33	C & I	21	5	24
33	Ed Policy & Leadership	10	1	10
34	Political Science	17	5	29
34	Sociology	29	9	31
34	Admin & Supervision	9	5	56

(table continues)

Institution	Academic Unit	No. of Faculty	Useable Responses	Response Rate (%)
35	Political Science	23	8	35
35	Psychology	47	13	28
36	Political Science	46	5	11
36	Psychology	90	21	23
37	Sociology	25	10	40
38	Political Science	21	7	33
39	Political Science	18	11	61
39	Psychology	26	13	50
39	Sociology	18	6	33
40	Psychology	24	1	4
40	Educational Administration	15	3	20
41	Psychology	40	8	20
41	C & I	15	4	27
42	Instruction & Learning	43	14	33
42	Admin & Policy Studies	22	6	27
43	Psychology	24	11	46
43	Sociology	13	7	54
44	Sociology	34	5	15
44	Educational Administration	19	4	21
45	Educational Administration	10	6	60
45	Educational Studies	30	16	53
46	Sociology	16	4	25
46	C & I and Special Ed	35	5	14
46	Ed Leadership & PS	12	4	33
47	Area of Ed Leadership & PS	10	6	60
48	Political Science	45	9	20
48	C & I	43	7	16
49	Elementary Education	15	6	40
50	Political Science & Pub. Ad.	20	7	35
50	Sociology & Anthropology	18	11	61
50	Div. of Teacher Education	28	11	39
51	Sociology	17	10	59
52	Psychology	40	15	38
53	Psychology	23	11	48
53	C & I	22	9	41
53	Educational Administration	8	5	63
	Study Totals	2671	799	30

APPENDIX B:

INSTRUMENT SET AND COVER LETTERS

Table B.1

Instrument Set Used For Faculty Data Collection

NOTE: The original instrument packet was electronically scannable and printed on four, legal size pages.

General Directions: This instrumentation packet is divided into seven parts. Please read and follow the directions at the beginning of each section, then answer all items by filling in the bubble next to the appropriate response. Please use a No. 2 pencil. Packets are pre-coded by institution and department.

Part I: Faculty Respondent Demographic Data

Directions: For each item, fill in the bubble next to the appropriate response.

1. Gender:
   - O Female
   - O Male

2. Age:
   - O 20-29
   - O 30-39
   - O 40-49
   - O 50-59
   - O 60 and Over

3. Ethnicity:
   - O Asian
   - O Black
   - O Hispanic
   - O White
   - O Other

4. Total number of years employed as a faculty member in higher education:
   - O 1
   - O 2
   - O 3
   - O 4
   - O 5-9
   - O 10-14
   - O 15-20
   - O 21 +

5. Total number of years employed at present institution:
   - O 1
   - O 2
   - O 3
   - O 4
   - O 5-9
   - O 10-14
   - O 15-20
   - O 21 +

6. Total number of institutions of higher education in which employed as a member of the faculty:
   - O 1
   - O 2
   - O 3
   - O 4
   - O 5
   - O 6 or more

7. Current employment status:
   - O Tenured
   - O Non-tenured

7a. If non-tenured, is your employment tenure track?
   - O Yes
   - O No

8. Level of primary teaching assignment:
   - O Undergraduate
   - O Masters
   - O Doctoral

9. Are you currently a member of the graduate faculty?
   - O Yes
   - O No

10. Highest degree obtained:
   - O BA/BS
   - O MA/MS/MEd
   - O Ed.D.
   - O Ph.D.
   - O Other

11. Faculty rank:
   - O Full Professor
   - O Associate Professor
   - O Assistant Professor
   - O Instructor
   - O Other

12. Institution/Dept. Code (Pre-Coded)
   OOOOOO

(table continues)

Part II (IRCHE)

Directions: Imagine that you are in a departmental faculty meeting. You are made aware at this meeting that a new university policy is being considered for which your review/ support is being requested. Using the scale below, please fill in one number on the scale which best represents the extent to which you would support the proposed policy.

Rating Scale:
1 = I definitely would not support (DWNS) the proposed policy. I am very much opposed to the idea.
2 = I probably would not support (PWNS) the proposed policy. My initial feeling is that it is not a good idea.
3 = I probably would support (PWS) the proposed policy. My initial feeling is that the suggestion is a good idea.
4 = I definitely would support (DWS) the suggestion. It is obviously a good idea and should be done.

A policy proposed to:	DWNS	PWNS	PWS	DWS
1. Provide equal weight to research/publication and teaching in all future tenure and promotion decisions.	①	②	③	④
2. Require that all faculty participate in CPR training.	①	②	③	④
3. Increase allocations for campus beautification and landscape projects.	①	②	③	④
4. Give faculty the primary responsibility for selecting college level administrators (i.e. Department Heads/ Deans).	①	②	③	④
5. Require all students to take a course designed to enhance multi-cultural awareness.	①	②	③	④
6. Reduce the number of scholarships awarded in each sport as a means of de-emphasizing intercollegiate athletics.	①	②	③	④
7. Give faculty the sole responsibility/authority to make tenure decisions.	①	②	③	④
8. Raise the university's admission requirements.	①	②	③	④
9. Set limits on the amount of outside consulting that faculty members can do for pay.	①	②	③	④
10. Limit the number of exams that faculty can administer in each course.	①	②	③	④
11. Eliminate tenure for all faculty members.	①	②	③	④
12. Reduce the number of employees that provide university support services.	①	②	③	④
13. Eliminate the A, B, C, D, F grading scale and replace it with a credit/no credit policy.	①	②	③	④

(table continues)

	DWNS	PWNS	PWS	DWS
14. Change the time of day that mail is delivered to faculty.	①	②	③	④
15. Formally involve faculty in the evaluation of classroom teaching of other faculty in their department through colleague/peer observation.	①	②	③	④
16. Conduct a bi-annual, weekend function attended by all faculty to aid recruitment of prospective students.	①	②	③	④
17. Insure that all faculty advise an equal number of students.	①	②	③	④
18. Develop a set of productivity indicators to compare higher education institutions with one another.	①	②	③	④
19. Design a grant writing and publication preparation workshop for all faculty to attend.	①	②	③	④
20. Change the procedures for selecting departmental support staff.	①	②	③	④

Part III (FSOEA - Part I)

Directions: Three separate goal statements are included here that faculty members usually attempt to accomplish in their roles as professionals. Each goal statement is followed by three key questions. For each key question, first decide how you would respond in trying to accomplish the goal. Then, decide how most other faculty in your department would respond in trying to accomplish this goal. You are making two distinct judgements for each key question. Use the scales provided and fill in one number that corresponds to your answer to the key question for each of the three goals.

GOAL I: To enhance the quality of teaching and student learning.

Key Question 1: How much energy/effort is put forth in your department to accomplish this goal?

	Little or No Effort		Some Effort		Lots of Effort
A. My Effort	①	②	③	④	⑤
B. Efforts of Other Faculty	①	②	③	④	⑤

(table continues)

Key Question 2: When there are difficult or uncertain obstacles to overcome in accomplishing this goal, how much persistence/perseverance is put forth to accomplish this goal?

	Little or no Persistence		Some Persistence		Lots of Persistence
A. My Persistence	①	②	③	④	⑤
B. Persistence of Other Faculty	①	②	③	④	⑤

Key Question 3: To what extent would failure to accomplish this goal result in increased efforts to accomplish this goal in the future?

	Little or no Increased Effort		Some Increased Effort		Lots of Increased Effort
A. My Effort	①	②	③	④	⑤
B. Efforts of Other Faculty	①	②	③	④	⑤

GOAL II: To enhance the quality of research and scholarly productivity.

Key Question 1: How much energy/effort is put forth in your department to accomplish this goal?

	Little or No Effort		Some Effort		Lots of Effort
A. My Effort	①	②	③	④	⑤
B. Efforts of Other Faculty	①	②	③	④	⑤

Key Question 2: When there are difficult or uncertain obstacles to overcome in accomplishing this goal, how much persistence/perseverance is put forth to accomplish this goal?

	Little or no Persistence		Some Persistence		Lots of Persistence
A. My Persistence	①	②	③	④	⑤
B. Persistence of Other Faculty	①	②	③	④	⑤

Key Question 3: To what extent would failure to accomplish this goal result in increased efforts to accomplish this goal in the future?

	Little or no Increased Effort		Some Increased Effort		Lots of Increased Effort
A. My Effort	①	②	③	④	⑤
B. Efforts of Other Faculty	①	②	③	④	⑤

(table continues)

GOAL III: To enhance the quality of service to the university, community, and profession.

Key Question 1: How much energy/effort is put forth in your department to accomplish this goal?

	Little or No Effort		Some Effort		Lots of Effort
A. My Effort	①	②	③	④	⑤
B. Efforts of Other Faculty	①	②	③	④	⑤

Key Question 2: When there are difficult or uncertain obstacles to overcome in accomplishing this goal, how much persistence/perseverance is put forth to accomplish this goal?

	Little or no Persistence		Some Persistence		Lots of Persistence
A. My Persistence	①	②	③	④	⑤
B. Persistence of Other Faculty	①	②	③	④	⑤

Key Question 3: To what extent would failure to accomplish this goal result in increased efforts to accomplish this goal in the future?

	Little or no Increased Effort		Some Increased Effort		Lots of Increased Effort
A. My Effort	①	②	③	④	⑤
B. Efforts of Other Faculty	①	②	③	④	⑤

Part IV (FSOEA - Part II)

Directions: In this section you are asked to reflect on what you believe are the major goals of your department with regard to each of three areas: teaching, research and service. Fill in the bubble next to the response that best reflects your personal assessment of each question.

1. How would you rate the professional knowledge and skills YOU possess that are important for accomplishing your department's goals in each of the following areas:

Teaching	Research	Service
OTypically inadequate	OTypically inadequate	OTypically inadequate
OSomewhat inadequate	OSomewhat inadequate	OSomewhat inadequate
OTypically adequate	OTypically adequate	OTypically adequate
OHighly adequate	OHighly adequate	OHighly adequate

(table continues)

2. How much personal responsibility do you believe YOU have to accomplish your department's goals in each of the following areas:

Teaching	Research	Service
ONo responsibility	ONo responsibility	ONo responsibility
OSome responsibility	OSome responsibility	OSome responsibility
OQuite a bit of responsibility	OQuite a bit of responsibility	OQuite a bit of responsibility
OA large amount of responsibility	OA large amount of responsibility	OA large amount of responsibility

3. How would you rate the success YOU have in accomplishing your department's goals in each of the following areas:

Teaching	Research	Service
ONo success	ONo success	ONo success
OA little success	OA little success	OA little success
OUsually some success	OUsually some success	OUsually some success
OA high degree of success	OA high degrees of success	OA high degree of success

4. How would you rate the professional knowledge and skills OTHER FACULTY in your department possess that you consider important for accomplishing your department's goals in each of the following areas:

Teaching	Research	Service
OTypically inadequate	OTypically inadequate	OTypically inadequate
OSomewhat inadequate	OSomewhat inadequate	OSomewhat inadequate
OTypically adequate	OTypically adequate	OTypically adequate
OHighly adequate	OHighly adequate	OHighly adequate

5. How much responsibility do you believe OTHER FACULTY in your department have to accomplish your department's goals in each of the following areas:

Teaching	Research	Service
ONo responsibility	ONo responsibility	ONo responsibility
OSome responsibility	OSome responsibility	OSome responsibility
OQuite a bit of responsibility	OQuite a bit of responsibility	OQuite a bit of responsibility
OA large amount of responsibility	OA large amount of responsibility	OA large amount of responsibility

(table continues)

6. How would you rate the success OTHER FACULTY in your department have in accomplishing your department's goals in each of the following areas:

Teaching	Research	Service
ONo success	ONo success	ONo success
OA little success	OA little success	OA little success
OUsually some success	OUsually some success	OUsually some success
OA high degree of success	OA high degrees of success	OA high degree of success

Part V (FDDS)

Directions: Listed below are examples of decisions made within your department. Read an item, then use the scale provided below and fill in one number that best indicates your level of actual participation in decision making and then fill in one number that best indicates your level of desired participation in decision making for each item.

Rating Scale: 1 = Never (N)
2 = Sometimes (S)
3 = Most of the Time (M)
4 = Always (A)

	PARTICIPATION IN DECISION MAKING							
	MY ACTUAL LEVEL				MY DESIRED LEVEL			
	N	S	M	A	N	S	M	A
1. My course load/Classes I teach	①	②	③	④	①	②	③	④
2. Students assigned to me for advisement	①	②	③	④	①	②	③	④
3. The kinds of research I do	①	②	③	④	①	②	③	④
4. Textbooks/teaching materials I use	①	②	③	④	①	②	③	④
5. Promotion and tenure of faculty	①	②	③	④	①	②	③	④
6. Budgeting departmental funds	①	②	③	④	①	②	③	④
7. The amount of service I am required to perform	①	②	③	④	①	②	③	④
8. Selection of new faculty	①	②	③	④	①	②	③	④
9. Faculty evaluation procedures	①	②	③	④	①	②	③	④
10. Student admission standards	①	②	③	④	①	②	③	④
11. My assignment to committees	①	②	③	④	①	②	③	④
12. Allocation of departmental resources (i.e. support staff, student workers, equipment use, etc)	①	②	③	④	①	②	③	④

(table continues)

	PARTICIPATION IN DECISION MAKING							
	MY ACTUAL LEVEL				MY DESIRED LEVEL			
	N	S	M	A	N	S	M	A
13. Development of new courses and curricula	①	②	③	④	①	②	③	④
14. Departmental social activities	①	②	③	④	①	②	③	④
15. Creating departmental committees	①	②	③	④	①	②	③	④

PART VI (IPOE)

Directions: Every faculty member produces something in carrying out university teaching, service, and research roles. For example, publications, new course development, professional consulting services, committee work, etc. Are all produced by faculty members. For each question below, select an option and fill in the number that best reflects your personal view.

1. Considering the teaching, research and service produced by individuals in your department, how would you rate their productivity when you collectively consider all three areas?

Low Production	Fairly Low Production	Moderate Production	High Production	Very High Production
①	②	③	④	⑤

2. How would you rate the quality of the products and services produced by individuals in your department?

Poor Quality	Rather Low Quality	Fair Quality	Good Quality	ExcellentQuality
①	②	③	④	⑤

3. Do people in your department get maximum output from available resources (money, people, equipment, etc)? That is, how efficient are individuals in your department as they work to accomplish teaching, research and service goals?

Not Efficient	Not Very Efficient	Fairly Efficient	Very Efficient	Extremely Efficient
①	②	③	④	⑤

4. What is the quality of the job done by individuals in your department anticipating problems, preventing them from occurring or minimizing their effects?

Poor Quality	Rather Low Quality	Fair Quality	Good Quality	ExcellentQuality
①	②	③	④	⑤

(table continues)

5. How informed are individuals in your department about innovations that could affect the way they do their work?

Uninformed	Somewhat Informed	Moderately Informed	Informed	Very Informed
①	②	③	④	⑤

6. When changes are made in methods, routines and/or equipment in your department, how quickly do individuals accept and adjust to these changes?

Very Slowly	Slowly	Rather Quickly	Rapidly	Immediately
①	②	③	④	⑤

7. How many of the people in your department readily accept and adjust to these changes?

Few If Any	Less Than Half	Half	More Than Half	Almost Everyone
①	②	③	④	⑤

8. How would you rate the way that individuals in your department cope with emergencies and disruptions?

Poor	Not So Good	Adequate	Good	Excellent
①	②	③	④	⑤

Part VII (FRCI)
Directions: Assume that implementation of the following policies is highly likely in your university. WHAT IS THE STRONGEST COURSE OF ACTION YOU WOULD TAKE TO PREVENT THE IMPLEMENTATION OF THE POLICY? Using the resistance scale below, fill in the number that best represents the strongest course of action you would likely take to prevent implementation of the policy.

Rating Scale:
1 = I would not resist the policy in any way.
2 = I would stay to myself. I wouldn't attend meetings at which the policy is to be discussed.
3 = I would initiate informal conversations with colleagues and speak against the policy.
4 = I would write a letter opposing the policy to the person(s) responsible for deciding whether or not to implement.
5 = I would, either singularly or with one or more colleagues, initiate a public display/protest against the idea (inform local news media, placard demonstration, etc).

(table continues)

A policy proposed to:	Wouldn't Resist	Stay To Myself	Informal Conver-sations	Write Letter	Public Display
1. Give faculty the primary responsibility for selecting college level administrators (Dept. Heads/Deans).	①	②	③	④	⑤
2. Raise the university's admission requirements.	①	②	③	④	⑤
3. Reduce the number of employees that provide university support services.	①	②	③	④	⑤
4. Change the procedures for selecting departmental support staff.	①	②	③	④	⑤
5. Conduct a bi-annual, weekend function attended by all faculty to aid recruitment of prospective students.	①	②	③	④	⑤
6. Require all students to take a course designed to enhance multi-cultural awareness.	①	②	③	④	⑤
7. Set limits on the amount of outside consulting that faculty members can do for pay.	①	②	③	④	⑤
8. Develop a set of productivity indicators to compare higher education institutions with one another.	①	②	③	④	⑤
9. Require that all faulty participate in CPR training.	①	②	③	④	⑤
10. Change the time of day that mail is delivered to faculty.	①	②	③	④	⑤
11. Increase allocations for campus beautification and landscape projects.	①	②	③	④	⑤
12. Design a grant writing and publications preparations workshop for all faculty to attend.	①	②	③	④	⑤
13. Give faculty the sole responsibility/ authority to make tenure decisions.	①	②	③	④	⑤
14. Eliminate tenure for all faculty members.	①	②	③	④	⑤
15. Provide equal weight to research/ publication and teaching in all future tenure and promotion decision.	①	②	③	④	⑤

(table continues)

A policy proposed to:	Wouldn't Resist	Stay To Myself	Informal Conver-sations	Write Letter	Public Display
16.Reduce the number of scholarships awarded in each sport as a means of de-emphasizing intercollegiate athletics.	①	②	③	④	⑤
17.Limit the number of exams that faculty can administer in each course.	①	②	③	④	⑤
18.Eliminate the A, B, C, D, F grading scale and replace it with a credit/no credit policy.	①	②	③	④	⑤
19.Formally involve faculty in the evaluation of classroom teaching of other faculty in their department through colleague/peer observation.	①	②	③	④	⑤
20.Insure that all faculty advise an equal number of students.	①	②	③	④	⑤

Thank you for taking the time to complete this packet. Any comments that you wish to make are welcome.

Please mail the completed packet back to us in the attached business reply envelope (no postage necessary) as soon as possible, but no later than March 1, 1996. Again, thanks for your efforts and contributions to this national research study.

Table B.2

Academic Unit Head Instrument Set

Part A: Personal & Unit Demographic Information
Part B: Higher Education Index of Departmental Effectiveness (HEIDE)

Academic Unit Head Supplemental Information

Part A

Please answer the following questions by placing an (X) next to the appropriate response or by filling in the blank:

1. Number of years that you have held this current administrative position:
   1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6-9 ___ 10 or more ___

2. Total number of years spent as an administrator in higher education institutions:
   1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6-9 ___ 10 or more ___

3. Total number of full-time faculty in your department/academic unit: _____

4. Please indicate the number of full-time faculty in your department/academic unit by:
Gender: Female ___ Male ___
Ethnicity: Asian ___ Black ___ Hispanic ___ White ___ Other ___

Part B : Organizational effectiveness is a broad based construct that refers to the extent to which an organization accomplishes a variety of organizational goals/outcomes. In this study it is the extent to which faculty members are able to establish and accomplish institutional goals in a manner that is efficient, adaptable and flexible to the needs of the organization and that ensures a high quantity and quality level of organizational product. In this section you are asked to make a series of judgements concerning your academic unit's effectiveness in carrying out the roles of research, service and teaching. First consider what your institution expects for each of these roles. Then place an (X) next to the response that best reflects **your personal assessment of each question according to your institutions standards for performance**.

1. When you think about the **role of research**, how would you **rate the faculty** in your academic unit with regard to:

their adaptability:
___ Not very adaptable ____ Somewhat adaptable ___ Adaptable ___Very Adaptable
their flexibility:
___ Not very flexible ___ Somewhat flexible ___ Flexible ___ Very Flexible
their efficiency:
___ Not very efficient ___ Somewhat efficient ___ Efficient ___ Very Efficient
the amount of research they produce:
___ Low productivity ___ Somewhat productive ___ Productive ___HighProductivity

(table continues)

the quality of research they produce:
___ Poor ___ Fair ___ Good ___ Excellent

2. When you think about the **role of teaching**, how would you **rate the faculty** in your academic unit with regard to:
their adaptability:
___ Not very adaptable ___ Somewhat adaptable ___ Adaptable ___Very Adaptable
their flexibility:
___ Not very flexible ___ Somewhat flexible ___ Flexible ___ Very Flexible
their efficiency:
___ Not very efficient ___ Somewhat efficient ___ Efficient ___ Very Efficient
the amount of student learning they produce:
___ Low productivity ___ Somewhat productive ___ Productive ___HighProductivity
the quality of student learning they produce:
___ Poor ___ Fair ___ Good ___ Excellent

3. When you think about the **role of service**, how would you **rate the faculty** in your academic unit with regard to:
their adaptability:
___ Not very adaptable ___ Somewhat adaptable ___ Adaptable ___Very Adaptable
their flexibility:
___ Not very flexible ___ Somewhat flexible ___ Flexible ___Very Flexible
their efficiency:
___ Not very efficient ___ Somewhat efficient ___ Efficient ___ Very Efficient
the amount of service they provide:
___ Low productivity ___ Somewhat productive ___ Productive ___HighProductivity
the quality of service they provide:
___ Poor ___ Fair ___ Good ___ Excellent

The remainder of your packet (white "bubble" sheets) is identical to those being distributed to your faculty. Please **complete Part I** of the white portion of the packet **with your own, personal demographic information**. Then **COMPLETE PARTS II - VII** from the perspective of **HOW YOU THINK FACULTY IN YOUR ACADEMIC UNIT WILL "TYPICALLY RESPOND"**, not how you personally feel about the items. As the packet is divided into seven short segments, it may be completed at intervals if it is not convenient to finish at one sitting.

Thanks again for your time and effort in support of this national research study!

Table B.3

Data Collection Instrument for Scale Development of the FRCI

Dear Faculty Member,
I am presently conducting a doctoral dissertation study which involves the concepts of receptivity and resistance to change in higher education settings and I'm seeking your professional assistance in developing one of the instruments I will be using. **This task should take no more than five minutes of your time.**

Resistance to change is defined as "*the degree to which a faculty member will oppose a proposed change or innovation or one that has actually been implemented. It is one's external orientation toward organizational change; the action(s) one embraces to prevent, delay undermine or stop the proposed innovation or change or actual implementation of it*".An individual's response to innovation or change is likely to be innovation specific. That is, one's response is apt to vary depending on a number of factors including the type, timing, magnitude, perceived cost, or effects of the particular innovation on the individual.

Directions Part I: Listed below are some common forms of resistance to change that might be initiated by faculty members in public, Carnegie Foundation classified, Research Universities I. When you think about possible changes or innovations that might affect you as a faculty member, whatever they might be, which of the following forms of resistance to change do you see as weakest? As strongest? Please read each form of resistance to change and then rank order the forms from what you view as the strongest to the weakest forms of resistance. Please do not put any tied rankings; use a separate number for ranking each form of resistance to change.

(1= Weakest Form of Resistance, 8=Strongest Form of Resistance)

Rank	Form of Resistance
_____	Initiate informal conversations with colleagues and speak against the innovation/change.
_____	Write a formal memo/letter of concern to the authority responsible for initiating the change (e.g. department chair, dean, provost) which opposes the innovation/change .
_____	Initiate formal discussion at a faculty meeting and speak against the innovation/change.
_____	Stay to oneself. Don't attend meetings at which the innovation/change is to be discussed.
_____	Go "over the head" of the initiating authority and make a formal complaint (written or verbal) against the innovation/change.
_____	Refuse to personally accept or participate in the innovation/change and continue to operate in accordance with previous method of operation.
_____	Either singularly or with one or more colleagues, initiate a public display/protest against the innovation/change (letter to the editor, placard demonstration, etc.).

(table continues)

_____ Make a public or private statement to the initiating authority and then withdraw and stay to oneself.

Directions Part II: For purposes of documenting characteristics of faculty respondents, please check the appropriate spaces below that best describe your department, faculty rank and teaching load.

Department	Rank	Tenure Status
Education: EDCI ___ or EDAF ___	Professor ___	Tenured ___
Political Science ___	Associate Professor ___	Non-tenured ___
Psychology ___	Assistant Professor ___	
Sociology ___	Other ___	

Primary Teaching Load
Graduate level ___
Undergraduate level ___

Thank you very much for your assistance. There is no need to identify yourself by name.

Table B.4

Instrument Set Cover and Follow Up Letters

February, 1996

Dear Faculty Member:

Your academic unit is one of 108 selected to participate in a national research study that seeks to examine structural relations among faculty receptivity/resistance to change and organizational effectiveness in public Research I Universities. Though **completely voluntary**, we hope that you will agree to assist in this important study by spending a few minutes to complete the enclosed instrument packet. **The tasks are rather brief and should require no more than 15-20 minutes of your time.** As the packet is divided into seven short segments, it may be completed at intervals if it is not convenient to finish at one sitting.

Please complete the packet and mail it back no later than March 1st. A business reply envelope (no postage necessary) has been provided for your convenience as well as to assure that **your responses are contributed anonymously, will be treated with confidentiality, and will only be used for research purposes.** To provide participants with access to results of the study, a summary of the data from your academic unit as well as an executive summary of the nationwide results will be provided.

We hope that you will complete the instruments included in this packet and will make your personal contribution to understanding faculty perspectives in our public Research I Universities. We appreciate your kind cooperation in this important national research study. If you have any questions regarding this study please contact us at (318) 482-5912 or by e-mail: jclarke@usl.edu.

Again, thanks for your cooperation and assistance.

Sincerely,

Jimmy Clarke, Dean
Enrollment Management
University of Southwestern Louisiana

Chad D. Ellett, Professor
Educational Administration and Research Methodology
Louisiana State University

(table continues)

February, 1996

Dear FIELD(1) FIELD(3),

Thank you once again for assisting us in our national research study. Included in this package are the FIELD(8) instrument packets you have agreed to distribute to the **full-time** members of your faculty. Attached to each faculty member's packet are a cover letter and a business reply envelope which eliminates the need for you to explain the study and/or to collect the packets.

In order to enhance faculty participation, we have also enclosed a package of "reminder notices" that we would ask you (or your designee) to please distribute to each full-time member of your faculty sometime between February 22-26.

Lastly, attached to this letter is an instrument packet intended for you (as head of the academic unit) to complete and return to us in the business reply envelope by March 1,1996. The first page of your packet (blue) will provide us with additional demographic data about you and your academic unit as well as your personal assessment of your unit's level of effectiveness in accomplishing goals related to teaching, research and service.

The remainder of your packet (white "bubble" sheets) is identical to those being distributed to your faculty. Please complete Part I of the white portion of the packet with your own, personal demographic information. Then **complete the remainder of the packet** (Parts II - VII) from the perspective of **how you think faculty in your academic unit will "typically respond"**, not how you personally feel about the items. As the packet is divided into seven short segments, it may be completed at intervals if it is not convenient to finish at one sitting.

108 academic units from 54 Research I Universities are participating in this study. We anticipate that a summary of results (both academic unit and national) can be sent to you by June, 1996.

In summary, we need you to please:

Task	Date
*** Distribute instrument packets to faculty**	**Upon Receipt**
*** Distribute "reminder notices" to faculty**	**February 22-26**
*** Complete & return your academic unit head packet**	**By March 1st**

Thank you once again for your time and willingness to assist us.

Sincerely,

Jimmy Clarke, Dean
Enrollment Management
University of Southwestern Louisiana

Chad D. Ellett, Professor
Educational Administration and Research Methodology
Louisiana State University

(table continues)

February 22, 1996

Dear Faculty Member,

An instrument packet was recently distributed to you for completion as part of a national research study. If you have already completed and returned it to us, please accept our sincere thanks for your personal contribution to understanding faculty perspectives in our public Research I Universities.

If you have not yet completed the instrument packet, please do so as soon as possible and return it in the business reply envelope (no postage necessary) which was attached. Although we had originally requested that the packets be mailed back no later than March 1st, some isolated mail delivery problems necessitate an extension of this deadline. Therefore, please **postmark your completed instrument packet no later than March 8, 1996**.

If for some reason you have misplaced your instrument packet or have questions regarding this study please contact us at (318) 482-5912 or by e-mail: jclarke@usl.edu.

Your time and cooperation are greatly appreciated. Thank you.

Sincerely,

Jimmy Clarke, Dean
Enrollment Management
University of Southwestern Louisiana

Chad D. Ellett, Professor
Educational Administration and Research Methodology
Louisiana State University

APPENDIX C:

DESCRIPTIVE STATISTICAL RESULTS FOR INSTRUMENT ITEMS

Table C.1

Summary of Descriptive Statistics for Each Item and Total Instrument for the IRCHE Administered to Faculty in All Academic Units (n=799)[a]

Item	M[b]	S.D.	% Max[c]
1	2.78	1.01	69.5
2	2.00	0.92	50.0
3	2.39	0.76	59.8
4	3.16	0.78	79.0
5	2.83	0.97	70.8
6	2.58	0.94	64.3
7	2.57	0.92	64.3
8	2.75	0.87	68.8
9	2.46	0.97	61.5
10	1.43	0.70	35.8
11	1.52	0.86	38.0
12	1.92	0.82	48.0
13	1.63	0.86	40.8
14	2.13	0.79	53.3
15	2.79	0.84	69.8
16	2.33	0.88	58.3
17	2.20	0.91	55.0
18	2.46	0.86	61.5
19	2.87	0.83	71.8
20	2.36	0.76	59.0

[a] Response rate varied from 797 (item 5) to 688 (item 14).

[b] Item scores on the IRCHE range from 1 (definitely would not support) to 4 (definitely would support). High scores reflect greater positive receptivity to change among faculty.

[c] Percentage of maximum is calculated by dividing the item mean score by the maximum possible score for the item. All IRCHE items have a maximum possible score of four (4).

Table C.2

Summary of Descriptive Statistics for Each Item and Total Instrument for the FRCI Administered to Faculty in All Academic Units (n=799)[a]

Item	M[b]	S.D.	% Max[c]
1	1.68	1.00	33.6
2	1.94	1.13	38.8
3	2.91	1.11	58.2
4	2.17	1.06	43.4
5	2.29	1.15	45.8
6	2.11	1.22	42.2
7	2.47	1.22	49.4
8	2.32	1.24	46.4
9	2.41	1.23	48.2
10	1.39	0.76	27.8
11	2.00	1.13	40.0
12	1.67	1.00	33.4
13	2.10	1.22	42.0
14	3.97	1.22	79.4
15	2.33	1.34	46.6
16	1.96	1.12	39.2
17	3.46	1.15	69.2
18	3.47	1.19	69.4
19	2.02	1.17	40.4
20	2.36	1.13	47.2

[a] Response rate varied from 780 (item 2) to 756 (item 10).

[b] Item scores on the FRCI range from 1 (would not resist) to 5 (initiate a public display/protest against the idea). High scores reflect greater resistance to change among faculty.

[c] Percentage of maximum is calculated by dividing the item mean score by the maximum possible score for the item. All FRCI items have a maximum possible score of five (5).

Table C.3

Summary of Descriptive Statistics for Each Item and Total Instrument for the FSOEA Part I Administered to Faculty in All Academic Units (n=799)[a]

Item	M[b]	S.D.	% Max[c]
1	4.23	0.86	84.6
2	3.59	0.96	71.8
3	3.82	0.90	76.4
4	3.28	0.95	65.6
5	3.49	1.06	69.8
6	3.07	1.07	61.4
7	4.17	0.92	83.4
8	3.86	0.96	77.2
9	3.98	0.99	79.6
10	3.62	1.01	72.4
11	3.82	1.09	76.4
12	3.53	1.08	70.6
13	3.49	1.13	69.8
14	3.08	1.00	61.6
15	3.13	1.12	62.6
16	2.82	0.97	56.4
17	2.88	1.12	57.6
18	2.64	0.98	52.8

[a] Response rate varied from 794 (item 1) to 756 (item 6).

[b] Item scores on the FSOEA Part I range from 1 to 5. Higher scores reflect higher perceptions of self or organizational efficacy.

[c] Percentage of maximum is calculated by dividing the item mean score by the maximum possible score for the item. All FSOEA Part I items have a maximum possible score of five.

Table C.4

Summary of Descriptive Statistics for Each Item and Total Instrument for the FSOEA Part II Administered to Faculty in All Academic Units (n=799)[a]

Item	M[b]	S.D.	% Max[c]
1	3.57	0.57	89.3
2	3.40	0.66	85.0
3	3.31	0.72	82.8
4	3.51	0.69	87.8
5	3.39	0.77	84.8
6	2.98	0.88	74.5
7	3.48	0.64	87.0
8	3.22	0.78	80.5
9	3.16	0.85	79.0
10	3.17	0.61	79.3
11	3.18	0.72	79.5
12	2.85	0.74	71.3
13	3.36	0.71	84.0
14	3.40	0.71	85.0
15	2.98	0.84	70.0
16	3.24	0.61	81.0
17	3.18	0.69	79.5
18	2.90	0.73	72.5

[a] Response rate varied from 796 (item 7) to 773 (item 15).

[b] Item scores on the FSOEA Part II range from 1 to 4. High scores reflect high faculty perceptions of self and organizational outcomes efficacy related to teaching, research or service.

[c] Percentage of maximum is calculated by dividing the item mean score by the maximum possible score for the item. All FSOEA Part II items have a maximum possible score of four.

Table C.5

Summary of Descriptive Statistics for Each Item and Total Instrument for the FDDS Administered to Faculty in All Academic Units (n=799)[a]

Item	M[b]	S.D.	% Max[c]
1	.24	0.82	81.0
2	2.63	1.14	65.8
3	3.87	0.43	96.8
4	3.85	0.52	96.3
5	2.58	1.15	64.5
6	1.80	0.89	45.0
7	3.11	0.89	77.8
8	2.94	0.92	73.5
9	2.39	1.00	59.8
10	2.32	1.06	58.0
11	2.67	0.90	66.8
12	1.80	0.80	45.0
13	2.88	0.86	72.0
14	2.19	0.88	54.8
15	1.93	0.82	48.3
16	3.60	0.59	90.0
17	3.05	0.94	76.3
18	3.92	0.32	98.0
19	3.89	0.41	9
20	3.11	0.92	77.8
21	2.52	0.83	63.0
22	3.36	0.74	84.0
23	3.28	0.79	82.0
24	2.98	0.82	74.5
25	2.89	0.90	72.3
26	3.21	0.74	80.3
27	2.52	0.80	63.0
28	3.07	0.79	76.8
29	2.23	0.89	55.8
30	2.21	0.84	55.3

[a] Response rate varied from 792 (item 1) to 733 (item 17).

[b] Item scores on the FDDS range from 1 (never) to 4 (always). High scores reflect greater levels of participation in decision making with items 1-15 reflecting faculty

(table continues)

perceptions of actual levels of participation and items 16-30 reflecting desired levels of participation.

[c] Percentage of maximum is calculated by dividing the item mean score by the maximum possible score for the item. All IRCHE items have a maximum possible score of four (4).

Table C.6

Summary of Descriptive Statistics for Each Item for the Decision Deprivation Index Administered to Faculty in All Academic Units (n=799)

Item	M[a]	S.D.
1	0.36	0.69
2	0.42	0.71
3	0.05	0.33
4	0.04	0.37
5	0.53	0.86
6	0.72	0.83
7	0.25	0.69
8	0.34	0.74
9	0.59	0.84
10	0.57	0.81
11	0.54	0.77
12	0.72	0.85
13	0.19	0.61
14	0.04	0.61
15	0.27	0.70

[a] Item scores on the FDDS range from 1 (Never) to 4 (Always). Two initial scores were calculated for each of 15 items: 1) an *actual* participation score and 2) a *desired* participation score. A third calculation (subtracting the actual from the desired level of decisional participation) created the Index of Decision Deprivation. Higher mean scores reflect greater levels of decision deprivation among faculty concerning various aspects of teaching, research and service.

Table C.7

Summary of Descriptive Statistics for Each Item and Total Instrument for the IPOE Administered to Faculty in All Academic Units (n=799)[a]

Item	M[b]	S.D.	% Max[c]
1	3.83	0.79	76.6
2	4.00	0.74	80.0
3	3.64	0.83	72.8
4	3.32	0.94	66.4
5	3.31	0.94	66.2
6	2.98	0.81	59.6
7	3.70	0.95	74.0
8	3.51	0.91	70.2

[a] Response rate varied from 788 (item 1) to 760 (item 8).

[b] Item scores on the IPOE range from 1 to 5. High scores reflect greater perception of organizational effectiveness.

[c] Percentage of maximum is calculated by dividing the item mean score by the maximum possible score for the item. All IPOE items have a maximum possible score of five (5).

Table C.8

Summary of Descriptive Statistics for Each Item and Total Instrument for the HEIDE Administered to Academic Unit Heads (n=79)

Item	M[a]	S.D.	% Max[b]
1	2.78	0.84	69.5
2	2.63	0.77	65.8
3	3.01	0.78	75.3
4	3.03	0.78	75.8
5	3.28	0.58	82.0
6	2.87	0.74	71.8
7	2.78	0.73	69.5
8	3.09	0.59	77.3
9	3.34	0.55	83.5
10	3.33	0.59	83.3
11	2.82	0.7	70.5
12	2.81	0.74	70.3
13	2.96	0.71	74.0
14	3.08	0.87	77.0
15	3.27	0.65	81.8

[a] Item scores on the HEIDE range from 1 to 4. High scores reflect greater perception of organizational effectiveness.

[b] Percentage of maximum is calculated by dividing the item mean score by the maximum possible score for the item. All HEIDE items have a maximum possible score of four (4).

APPENDIX D:

ITEM LOCATION INDICES FOR FACTORED SUBSCALES OF THE IRCHE, FRCI, FSOEA, AND FDDI

Table D.1

Item Location Index for Factored Subscales of the modified IRCHE

IRCHE Subscale	Item Number
Receptivity to Superficial/Behavioral Change (RECSBC) (5)[a]	16, 17, 18, 19, 20
Receptivity to Cultural/Normative Change with an Academic Focus (RECCNAF) (5)	1, 8, 10, 11, 13
Receptivity to Cultural/Normative Change regarding Procedural Authority (RECCNPA) (3)	4, 6, 7

[a] Number of items retained on subscale

Table D.2

Item Location Index for Factored Subscales of the FRCI

FRCI Subscale	Item Number
Resistance to Increasing Authority (RESIA) (3)[a]	1, 13, 16
Resistance to Superficial/Behavioral Change that is Required (RESSBCR) (4)	6, 9, 12, 20
Resistance to Superficial/Behavioral Change (RESSBC) (4)	3, 4, 10, 11
Resistance to Cultural/Normative Change RESCNC (3)	14, 17 18

[a] Number of items retained on subscale

Table D.3

Item location Index for Factored Subscales of the FSOEA Part I

FSOEA Part I Subscale	Item Number
My (Self) Efficacy (Teaching/Service) (METS) (6)[a]	1,3,5,13,15,17
Other Faculty Efficacy (Research) (OFER) (3)	8, 10, 12
Other Faculty Efficacy (Service) (OFES) (3)	14, 16, 18

[a] Number of items retained on subscale

Table D.4

Item Location Index for Factored Subscales of the FSOEA Part II

FSOEA Part II Subscale	Item Number
Other Faculty Outcomes Efficacy (Teaching/Research/Service) (OFOETRS) (7)[a]	10, 11, 12, 14, 16, 17, 18
My (Self) Outcomes Efficacy (Teaching/Service) (MOETS) (6)	1, 3, 4, 6, 7, 9
My (Self) Outcomes Efficacy (Research) (MOER) (3)	2, 5, 8

[a] Number of items retained on subscale

Table D.5

Item Location Index for Factored Subscales of the FDDI

FDDS Subscale	Item Number
Decision Deprivation - Organizational (DDORG) (9)a	6, 8, 9, 10, 11, 12, 13, 14, 15
Decision Deprivation - Personal (DDPER) (5)	1, 2, 3, 4, 7

[a] Number of items retained on subscale

APPENDIX E

ITEM RESPONSE TOTALS FOR THE IRCHE AND FRCI

Table E.1

Inventory of Receptivity to Change in Higher Education (IRCHE) Item Response Totals

IRCHE/FRCI Item Number	Item Content	Percentage of Responses DWNS[a]	PWNS	(-)[b]	PWS	DWS	(+)[c]
	A policy proposed to:						
1/15	Provide equal weight to research/publication and teaching in all future tenure and promotion decisions	14	23	**37**	34	29	63
2/9	Require that all faculty participate in CPR. training	37	32	**69**	26	6	**22**
3/11	Increase allocations for campus beautification and landscape projects.	13	40	**53**	43	4	**47**
4/1	Give faculty the primary responsibility for selecting college level administrators (i.e. Department Heads/ Deans).	3	14	**17**	46	37	**83**
5/6	Require all students to take a course designed to enhance multi-cultural awareness.	11	24	**35**	37	29	**66**
6/16	Reduce the number of scholarships awarded in each sport as a means of de-emphasizing intercollegiate athletics.	12	39	**51**	29	21	**50**
7/13	Give faculty the sole responsibility/authority to make tenure decisions.	12	38	**50**	32	18	**50**
8/2	Raise the university's admission requirements.	7	33	**40**	39	21	**60**
9/7	Set limits on the amount of outside consulting that faculty members can do. for pay	20	31	**51**	34	16	**50**

(table continues)

IRCHE/FRCI Item Number	Item Content	Percentage of Responses DWNS[a]	PWNS	(-)[b]	PWS	DWS	(+)[c]
	A policy proposed to:						
10/17	Limit the number of exams that faculty can administer in each course.	67	27	**94**	4	3	**7**
11/14	Eliminate tenure for all faculty members.	67	19	**86**	8	5	**13**
12/3	Reduce the number of employees that provide university support services.	33	47	**80**	15	5	**20**
13/18	Eliminate the A, B, C, D, F grading scale and replace it with a credit/no credit policy.	57	27	**84**	12	4	**16**
14/10	Change the time of day that mail is delivered to faculty.	21	50	**71**	24	5	**29**
15/19	Formally involve faculty in the evaluation of classroom teaching of other faculty in their department through colleague/peer observation.	8	24	**32**	49	19	**68**
16/5	Conduct a bi-annual, weekend function attended by all faculty to aid recruitment of prospective students.	20	33	**53**	40	7	**47**
17/20	Insure that all faculty advise an equal number of students.	25	41	**65**	26	9	**35**
18/8	Develop a set of productivity indicators to compare higher education institutions with one another.	16	31	**47**	44	9	**53**
19/12	Design a grant writing and publication preparation workshop for all faculty to. attend	7	19	**26**	52	21	**73**
20/4	Change the procedures for selecting departmental support staff.	10	52	**62**	30	8	**38**

(table continues)

[a] = Total: DWNS + PWNS (not supportive)
[b] = Total: P.S. + DWS (supportive)

Table E.2

Resistance to Change Inventory (FRCI) Item Response Totals

IRCHE/ FRCI Item Number	Item Content	Percentage of Responses Wouldn't Resist	Stay To Myself	Informal Conver-sations	Write Letter	Public Display
	A policy proposed to:					
1/4	Give faculty the primary responsibility for selecting college level administrators(Dept. Heads/ Deans).	65	7	23	4	1
2/8	Raise the university's admission requirements.	54	8	28	9	1
3/12	Reduce the number of employees that provide university support services.	17	10	42	27	4
4/20	Change the procedures for selecting departmental support staff.	39	14	39	8	1
5/16	Conduct a bi-annual, weekend function attended by all faculty to aid recruitment of prospective students.	37	15	34	13	2
6/5	Require all students to take a course designed to enhance multi-cultural awareness.	48	10	27	11	3
7/13	Set limits on the amount of outside consulting that faculty members can do for pay.	33	12	32	20	3
8/16	Develop a set of productivity indicators to compare higher education institutions with one another.	39	12	30	15	4

(table continues)

IRCHE/ FRCI Item Number	Item Content	Percentage of Responses: Wouldn't Resist	Stay To Myself	Conver-sations	Informal Write Letter	Public Display
	A policy proposed to:					
9/2	Require that all faulty participate in CPR training.	34	15	31	16	4
10/14	Change the time of day that mail is delivered to faculty.	75	13	10	1	0
11/3	Increase allocations for campus beautification and landscape projects.	50	13	26	9	2
12/19	Design a grant writing and publications preparations workshop for all faculty to attend.	64	13	19	4	1
13/7	Give faculty the sole responsibility/ authority to make tenure decisions.	50	7	30	10	3
14/11	Eliminate tenure for all faculty members.	9	2	16	29	44
15/1	Provide equal weight to research/ publication and teaching in all future tenure and promotion decision.	45	6	25	19	5
16/6	Reduce the number of scholarships awarded in each sport as a means of de-emphasizing intercollegiate athletics.	51	15	25	7	2
17/10	Limit the number of exams that faculty can administer in each course.	10	7	28	39	17

(table continues)

IRCHE/FRCI Item Number	Item Content	Percentage of Responses: Wouldn't Resist	Stay To Myself	Conver-sations	Write Letter	Informal Public Display
	A policy proposed to:					
18/13	Eliminate the A, B, C, D, F grading scale and replace it with a credit/no credit policy.	13	4	25	42	17
19/15	Formally involve faculty in the evaluation of classroom teaching of other faculty in their department through colleague/peer observation.	52	8	29	9	2
20/17	Insure that all faculty advise an equal number of students.	34	11	41	12	2

VITA

James Sutherland (Jimmy) Clarke, son of Charles Billings Clarke and the late Margaret Corbett Clarke, was born on April 10, 1951 in Portland, Oregon. On August 20, 1977, Jimmy married Sandra Gay Pontiff of Franklin, Louisiana. He is the father of two children, Jessica Lauder Clarke and Michelle Joyce Clarke.

Jimmy graduated in 1969 from Chester F. Awalt High School in Mountain View, California. He holds a Bachelor of Arts in History (1974) from the University of California at Santa Barbara and a Master of Science in Recreation Administration (1977) from Louisiana State University.

Jimmy was initially employed as Director of Intramural Sports at the University of California at Santa Barbara (1974-75). Since 1977 he has been employed at the University of Southwestern Louisiana in a variety of capacities. He served as Director of Free Time Activities (1977-78), Assistant Dean of Student Personnel (1978-81), Dean of Student Personnel (1981-1991) and most recently as Dean of Enrollment Management (1991-present). In addition to his administrative roles, Jimmy teaches a Freshman Seminar course as well as courses for the Department of Health and Physical Recreation. Jimmy also serves as political analyst for CBS affiliate KLFY-TV10 in Lafayette, Louisiana.

DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: James Sutherland Clarke

Major Field: Educational Administration and Supervision

Title of Dissertation: Personal and Organizational Structure Correlates of Receptivity and Resistance to Change and Effectiveness in Institutions of Higher Education

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination:

March 21, 1997